Department of Energy
Richland Operations Office
P.O. Box 550
Richland, Washington 99352

99-MET-009

DEC 21 1998

Dr. W. J. Madia, Director
Pacific Northwest National Laboratory
Richland, Washington 99352

Dear Dr. Madia:

CONTRACT NO. DE-AC06-76RL-01830 – FY 1998 YEAR END EVALUATION OF BATTELLE FOR MANAGEMENT AND OPERATION OF THE PACIFIC NORTHWEST NATIONAL LABORATORY (PNNL)

Enclosed is the U. S. Department of Energy (DOE) FY 1998 Year End Evaluation Report of Battelle's management and operation of PNNL. Based on the Critical Outcome matrices identified for FY 1998 Battelle earned a rating of Excellent. However, in consideration of Battelle's ongoing efforts to strengthen the partnership with DOE and extraordinary effort in the following areas we have assigned an overall rating of Outstanding.

The basis for my action is three fold. Battelle's scientific research performance was Outstanding in FY 1998 as noted by the HQ Office of Science (OS) rating for scientific excellence. This same rating was awarded in three of the four goals evaluated by OS (Quality of Science, Technology and Engineering; Relevance to National Needs and Agency Missions; and Performance in the Operation of Major Research Facilities). The fourth goal (Effective and Efficient Research Program Management) was rated as Excellent. This represents well deserved recognition for the quality of research conducted across many scientific fields and is a direct tribute to the quality of scientists that perform the work. The inaugural year of EMSL operations is a fitting example of these outstanding attributes. Furthermore, the Laboratory made exceptional progress in the development and implementation of the Integrated Safety Management System (ISMS). This progress was reflected in the successful Phase I/II ISMS verification, the first within the Department, and the Assistant Secretary for Environment, Safety and Health (EH-22) follow-up safety management evaluation, which reflected very positive safety improvements. This system and its implementation will help ensure that the integration of safety and sound environmental management practices into daily operations will occur as a matter of routine. The Laboratory's work is significant in that it addresses the highest priority activity in the Department. The Laboratory's work on self-assessment is also a point of acclamation. The Laboratory is one of the leaders in the Department on having and utilizing a self-assessment process to ensure continuous improvement. You are commended for your approach and the use of results to improve the overall management of the Laboratory and making self-assessment an integral part of your management system and approach.

DOE continues to be very pleased with Battelle's performance, and believes that with the new contract signed in August, both Battelle and DOE are well positioned for continued improvement and success. The effective partnership between DOE and Battelle, along with the results-oriented, performance-based concepts which comprise the new contract, have been key to the Laboratory's success in a climate of increased performance scrutiny and shrinking budgets.

Furthermore, the concepts and processes developed for the Critical Outcomes, and used for tracking and determining PNNL performance, is quickly becoming the cornerstone for other Department Laboratories. As evidenced in this report, continued use of this process should result in sound advancements in both science and technology programs and Laboratory operations for years to come.

This was the third year that the performance evaluation was centered on attainment of six Critical Outcomes formed in partnership between Battelle and DOE, with the contractor meeting or exceeding expectations in a number of areas.

- The Environmental Technology Critical Outcome was evaluated as Outstanding. The Laboratory demonstrated 14 new technologies for a variety of customers at numerous sites, and successfully deployed thirteen technologies that impact environmental cleanup. Furthermore, 25 activities or solutions addressing Hanford science needs and technical gaps were provided.

  However, one factor deserves mentioning for your consideration in FY 1999. Of all the completed deployments in FY 1998, none were at the Hanford Site. This deployment status deserves further study to understand why no deployments occurred at Hanford. In FY 1999, we look forward to PNNL working jointly with RL and other site organizations to enhance opportunities for deployments at Hanford.

- The Scientific Excellence Critical Outcome measures the contractor's effectiveness in delivering more and better R&D for each dollar spent and how the Laboratory is viewed as a science and technology provider of choice in the markets it serves. Performance in this area for FY 1998 was rated as Excellent. Notable achievements for FY 1998 include being awarded a total of 10 R&D 100 and Federal Laboratory Consortium awards, and receiving outstanding peer reviews and excellent customer feedback from the scientific community.

- The Scientific and Technical Contributions Critical Outcome measures contractor progress in scientific and technical contributions to the core capabilities, missions, goals, and objectives of the Department of Energy. The diversification of the environmental science and technology business base was very noteworthy. Environmental clients increased by 27%, and sales dollar volume increased 50% from FY 1997. The Laboratory's contributions in

National Security were noteworthy, particularly providing detection capability technology in support of the Comprehensive Test Ban Treaty, and providing onsite advisors regarding the disposition of irradiated nuclear fuel in the Democratic Republic of Korea. This level of performance exceeded DOE expectations, and earned a rating of Excellent for this outcome.

- The Operational Excellence Critical Outcome was also rated as Excellent. RL was very pleased with the review and validation of the Laboratory's Integrated Safety Management System, and the results of a follow-up visit by EH-22. Battelle's commitment to occupational safety and health, radiological control and environmental protection was strong. In addition, Battelle has made significant progress toward integrating safety and environmental management practices into daily operations, and many positive changes have been noted. Furthermore, Battelle has demonstrated excellent performance in the management and use of Laboratory facilities and assets, including cost control and reduction of the cycle time for engineering requests.

- An Excellent rating within the Leadership and Management Critical Outcome emphasizes the work Battelle continues to perform in gathering valuable insights into staff and management needs, and continuing emphasis on effectively utilizing self-assessment to monitor and to drive needed improvements. The Integrated Assessment Program (IAP), now in its third year, continues to improve as the program matures. A number of contractor organizations have integrated self-assessment into their management approach, and marked improvements in the self-assessment process were noted in almost all organizations. Although there remain opportunities for strengthened interactions between the contractor and RL staff, 65% of RL survey respondents rated their satisfaction with their involvement in the IAP process as satisfactory (3) or above in a 5 point scale, up 7% over FY 1997. The FY 1998 year-end data showed the cost per research FTE to be higher than expected. Additionally, there is a shortage of research staff relative to the amount of work available to the Laboratory.

Battelle's performance in the area of Community Relations continued to be Outstanding. The Laboratory was instrumental in the formation of twelve new technology-based businesses and all of the ten businesses started in FY 1997 were still operating as of the end of FY 1998. Battelle also continued its strong partnerships with local and regional organizations to enhance science, mathematics, and technology reform efforts in schools. Despite reduced direct sponsorship by DOE, Battelle continues to forge new linkages with educational organizations and to strengthen existing ones, exceeding expectations for partnerships this year. In addition, significantly higher involvement by individual students characterized this year's performance. Perhaps most emblematic of the strength of the programs for student appointees is that approximately 45% of the appointments were funded by external sponsors and were placed at the request of these organizations.

RL's self-assessment reviews covered three primary areas, the Business Management Oversight Process, Technical Programs, and ES&H/Operations. In all, the self-assessment activities met or exceeded RL expectations. The review of Battelle's Business Management functions concluded that overall they are exceeding expectations and were rated Excellent. Both the Technical Programs and ES&H/Operations reviews were also rated as Excellent. Noteworthy within the Technical Programs areas was the self-assessment programs within the Environmental Technologies Division and the Energy Technology Division (both rated as Outstanding). The ES&H/Operations self-assessment review found that both the approach utilized and the use of results were Excellent, while the area of deployment was found to require some improvements and was rated as Good.

Other observations, which were outside the above evaluation areas, have been captured as part of the report. Some of the more notable included:

- The Laboratory heavily supports Bechtel Hanford, Inc. (BHI) in the Groundwater/Vadose Zone Project, leading the efforts associated with the development of a science and technology roadmap. The Laboratory was successful in managing a cooperative effort by the national laboratory complex in developing the science and technology needs. The Laboratory also was instrumental in assisting BHI and cooperating with the Project Hanford Management Contractor in the development of the project specification and the long-range plan for the project. These efforts are deemed outstanding for this rating period.

- During FY 1998, the contractor provided Outstanding support to the Office of Declassification as it further implemented the DOE Openness Initiative. The Hanford Declassification Project reviewed more than 4,200 documents (over 171,000 pages) for declassification during FY 1998. This project is exceeding all expectations, with exceptional quality, and within budget.

- The Laboratory is commended for the development of the Electronic Prep and Risk system and for providing RL staff with ready access to it. The 61-element checklist shows the depth of this process, and gives DOE good confidence that risk factors in many dimensions have been identified carefully by management prior to proposal issuance.

DOE is very pleased with the strides the contractor has made during this last year in quality of science, discipline of operations, cost-effective management, and community involvement. We look forward to our continued partnership, and working to further strengthen the results-oriented, performance-based process set forth within the new contract.

If you have any questions, please contact me, or your staff may contact Robert M. Rosselli, Assistant Manager for Science and Technology, on (509) 372-4005.

Sincerely,

John D. Wagoner
Manager

MET:TLD

Enclosure:
FY 1998 Year End
Evaluation of Battelle

cc w/encl:
M. A. Krebs, SC-1

Richland Operations Office

FY 1998
Performance Evaluation of
Battelle Memorial Institute
for the
Management and Operation of
the Pacific Northwest National Laboratory

December 1998

FY 1998 YEAR END EVALUATION OF BATTELLE FOR THE MANAGEMENT AND OPERATIONS OF THE PACIFIC NORTHWEST NATIONAL LABORATORY

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I. OVERALL SUMMARY/RATING

The basis for the evaluation of Battelle Memorial Institute's management and operations of the Pacific Northwest National Laboratory during FY 1998 centered around the measures found within six Critical Outcomes. Although the Contractors self-evaluation of the Critical Outcomes and their associated objectives and indicators were the primary means for determining Battelle's performance other means such as operational awareness (daily oversight) activities, other RL reviews, or other outside agency reviews (OIG, GAO, DCAA, etc.) conducted throughout the year were utilized as appropriate. In addition, a two-week field review was conducted from November 2 – 13, 1998, during which review teams followed up on (verified & validated) activities and issues associated with the outcomes. The FY 1998 Critical Outcomes included Environmental Technology, Scientific Excellence, Scientific and Technical Contributions, Operational Excellence, Leadership and Management and Community Relations.

Battelle's performance generally exceeded RL expectations through out FY 1998, and although there were several areas for improvement identified, these were more than offset by the identified strengths throughout the organization. Based on this evaluation the overall performance score was determined to be 4.3 value points, which corresponds to an adjective rating of **EXCELLENT**. The ratings for each of the outcomes, as well as the overall rating are indicated within tables 1A and 1B below.

Critical Outcome	Adjectival Rating	Score	Weight	Weighted Score
Environmental Technology	Outstanding	4.7	20%	0.9
Scientific Excellence	Excellent	3.9	25%	1.0
Scientific and Technical Contributions	Excellent	4.4	15%	0.7
Operational Excellence	Excellent	4.0	20%	0.8
Leadership & Management	Excellent	4.2	15%	0.6
Community Relations	Outstanding	5.0	5%	0.3
			Total	**4.3**

Table 1A – FY 1998 Overall Score Calculation

Total Score	5.0 - 4.5	4.4 - 3.5	3.4 - 2.5	2.4 - 1.5	<1.5
Final Rating	Outstanding	Excellent	Good	Marginal	Unsatisfactory

Table 1B – FY 1998 Overall Adjectival Rating

RL's evaluation of each of the Critical Outcomes generally agreed with that of the Battelle's FY 1998 Annual Self-Evaluation Report for the Pacific Northwest National Laboratory with the exception of Operational Excellence. Although the overall adjectival rating of excellent remained the same RL identified a number of areas in need of improvement regarding the integration of safety and environmental management practices into daily operations, as well as the conduct of operations within the 306W facility and the waste management program. Based on these findings the overall weighted points awarded were 4.0 compared to the 4.4 provided within the Battelle Self-Evaluation. Section II of this report provides the evaluation with respect of each of the Critical Outcomes and there respective objectives and indicators.

Section III of this report, "Self-Assessment Reviews," provides information regarding 1) Business Management Oversight Process (BMOP) review and reviews of both 2) Program Technical and 3) ES&H/Operations, self-assessment activities.

The review of Battelle's business management functions, coordinated by the RL Contract Finance and Review Division, for the Office of Assistant Manager for Science and Technology, concluded that overall they are exceeding RL expectations earning an overall rating of **Excellent**. Nine functional areas participated in the two-week field review conducted November 2 – 13, 1998, while the remaining areas found that it was not necessary to participate in the field review. The full Business Management Oversight Review Report as provided to AMT may be found within Appendix 1 of this report.

The RL Science and Technical Programs Division performed a validation assessment of the Contractor's Environmental and Health Sciences Division, Environmental Technology Division, Energy Technology Division, and the National Security Division self-assessments. Based on the division level self-assessments evaluated, the overall Contractor performance on self-assessment at the technical program division level was rated as **Excellent**.

The ES&H/Operations review, conducted by the Science and Technology Operations Division, found the overall self-assessment program in this area to be **Excellent**. The overall process appeared to be well maintained and robust with self-assessment results being used to improve system performance (exceptions to this are noted in the individual responses). Approach scored higher for all systems observed than did deployment. There were cases observed where the team considered that deployment has not occurred or requires substantial improvement.

Section IV, "Other Notable Observations," of this report provides information regarding DOE Headquarters programs/projects, and other RL activities. It should be noted that both this section and Section III, "Self-Assessment Reviews" are provided for information purposes only and do not effect the overall rating.

II. CRITICAL OUTCOMES

1. Environmental Technology

In FY 1998 the interest in increasing the impact of the Laboratory's scientific and technical contribution to addressing issues of national interest led to increased emphasis on performance in environmental technology indicators. Battelle achievements in the following three critical objectives respected this increased emphasis and earned the contractor a rating of 4.7, **Outstanding.** One area deserves a note and a suggestion for improvement in FY 1999. Of all the completed deployments in FY 1998, none were at the Hanford site. This deserves further investigation to determine why this was the case, identify barriers if any, and, working jointly with DOE-RL and other site organizations, formulate response actions as appropriate to enhance the opportunities for contribution to deployments at Hanford. Tables 2A and 2B show how the outcome objectives were determined as well as the overall outcome rating.

1.1 Develop innovative technologies and approaches

In FY 1998 the contractor performed at a rating level of 4.8 for an **Outstanding** rating for Objective 1.1. The Contractor demonstrated 14 technologies, identified 32 new concepts, and provided solutions to Hanford problems that earned 81.5 effectiveness points.

1.1.1 Number of innovative technologies and approaches successfully demonstrated

The Contractor performed 14 demonstration activities in FY 1998. DOE-RL utilized a two stage tracking system to follow the status of demonstrations throughout the year. Demonstrations were first accepted as candidates for credit by an initial DOE-RL review and then accepted at completion after a second DOR-RL review of completion documentation and follow-up discussions with the customer. The results of the DOE-RL review are in agreement with the Battelle year-end evaluation for FY 1998. Under the performance criteria for this indicator, completing 14 innovative technology demonstrations earns the contractor 90 effectiveness points in support of Critical Objective 1.1.

1.1.2 Provide significant solutions to Hanford problems/needs

The Contractor provided 25 activities or solutions addressing Hanford science needs and technical gaps at the request of Hanford clients in FY 1998. DOE-RL conversations with Battelle's customers revealed a high level of satisfaction with the work provided by the Contractor employees supporting their projects. The results of the DOE-RL review are in agreement with the Contractor year-end evaluation for FY 1998. Under the performance criteria for this indicator, 25 activities or solutions addressing Hanford needs earns the contractor a 71.5 solution score corresponding to 81.5 effectiveness points in support of Critical Objective 1.1.

1.1.3 Number of new environmental technology concepts identified or disclosed

Thirty-two activities were submitted by the contractor as candidates under this indicator. The intent of identifying new environmental technology concepts is to 'reflect the Laboratory's efforts to develop and capture new technology ideas.' Review of the provided

documentation by DOE-RL staff has validated all thirty-two of these activities as meeting the measure of the indicator. This would correspond to the contractor's performance under this indicator earning 45.5 effectiveness points in support of Critical Objective 1.1.

1.2 Ensure deployment of innovative technologies and approaches

The Contractor exceeded the maximum for both indicators under this objective, earning a 4.9 or **Outstanding** rating for this objective. Deployments are a critical indicator of success for the Department of Energy and the Richland Operations Office.

1.2.1 Number of formal expressions of interest entered into

The contractor submitted 12 candidate activities toward this indicator. This included five License Agreements, five Memoranda of Understanding, one Teaming Agreement, and one Option Agreement. The intent of the Formal Expressions of Interest indicator measure is to 'reflect the contractor's efforts to create opportunities for commercialization of Laboratory and Government developed innovative technologies.' Review of the provided documentation by DOE-RL staff has validated all 12 of these activities as meeting the measure of the indicator. This performance earns the contractor 95 effectiveness points in support of Critical Objective 1.2.

1.2.2 Number of innovative technologies and approaches successfully deployed in commercial practice

The Contractor deployed 13 innovative technologies in FY 1998. During the year, DOE-RL tracked the Laboratory deployments, utilizing a two stage tracking system to follow the status of deployments throughout the year. Deployments were first accepted as candidates for credit by an initial DOE-RL review and then accepted at completion after a second DOR-RL review of completion documentation and follow-up discussions with the customer. The results of the DOE-RL review are in agreement with the Contractor's year-end evaluation for FY 1998. Based on this process, 13 deployments were found to meet the measure of the indicator. These 13 deployments result in 29 deployment points in support of Critical Objective 1.2 with the point breakdown as follows: 5 other DOE site deployments at 3 points each, 6 other government site deployments at two points each, and 2 commercial site deployments. Note: there were no completed Hanford site deployments in FY 1998, this is an area for improvement. In FY 1998 five additional technologies were submitted for acceptance; however, two were rejected and three were not deployed in FY 1998. A score of twenty-nine deployment points for this indicator corresponds to the contractor earning 100 effectiveness points toward Critical Objective 1.2.

1.3 Effectively lead the technical aspects of the national Tanks Focus Area

The DOE Tanks Focus Area is a high visibility national technology coordination program. Laboratory technical assistance has been highly valued by the TFA leadership and the contractor's performance in the three indicators under this Critical Objective has earned a rating of 4.2, **Excellent**.

1.3.1 Definition of technical solutions across the DOE complex

Laboratory Technical Team performance was measured by how well they integrated with the site users, technical advisors, and DOE-HQ users to develop recommendations that were responsive to customer needs. A survey was developed by DOE-RL and the Contractor and administered by the DOE-RL TFA Program Manager. Respondents to the survey were members of the TFA Management Team representing users from the four major DOE sites and select DOE program managers responsible for the TFA. The survey provided respondents a range from 1 to 10 (worst to best), in meeting customer expectations in three major areas - Program Development, Integrated Multiyear Program Planning & Execution, and Development & Planning of the Technical Responses. Battelle continues to demonstrate outstanding performance in the technical program development, integration, and response process. The users support the process by which the technical solutions are derived. The Contractor Technical team was rated outstanding in integrating site/field/project operations staff, EM-50 crosscut programs, and industry/university/international participants as well as in the areas of conflict resolution, fostering user/producer/developer teams, and a variety of other necessary technical roles. The composite score result for all questions was a 9.28 and this corresponds to the contractor earning an effectiveness score of 72.8 points toward Critical Objective 1.3.

1.3.2 Delivery of technology to solve complex-wide problems

The DOE Tanks Focus Area established 24 key deliverables in the area of technology delivery. Performance was measured by the ratio of completed deliverables to the total number of expected deliverables. Of the original 24, five were removed from the list under the approved baseline control due to user baseline changes or circumstances outside the Technical Team's control leaving a total of 19 key deliverables. Seventeen of these were successfully completed as of September 30, 1998 for a total of 89% completion. Four of the key deliverables, though taken off of the list of total expected deliverables, will be completed in early FY 1999. Throughout the year, the TFA Technical Team performance in this area has excelled. The key TFA activities defined as technical solutions were diligently tracked and reported with recommendations made in time to maintain project schedules. Project milestone deliverables, completion criteria, and participants were established for each of the key activities and as a result TFA delivery was regarded as solid, effective, and highly visible. The FY 1998 percent completion rate of 89% for this indicator corresponds to a performance rating of 64 effectiveness points in support of Critical Objective 1.3.

1.3.3 Measuring to technical progress to baseline

The DOE Tanks Focus Area actively managed the cost and schedule performance of its technical activities through FY 1998. Technical progress as assessed by the Technical Team was one indicator of cost and schedule monitoring performance. Diligent assessment throughout the year identified technical issues that have had cost and schedule impact, and as a result were used to minimize the amount of year-end carryover to a pre-determined nominal value. As recorded in the FY 1998 September Financial Plan Data Report, the TFA carryover figure was 9.7%. Throughout FY 1998, The Contractor provided all relevant Progress Tracking and Change Request information in partnership with DOE-RL for processing in timely fashion. Change control measures in response to budget were initiated in conjunction with the changing priorities. As evidenced in the budget allocation for TFA, focus area carryover continues to be a high priority indicator for HQ due to the importance in managing limited funds and accordingly TFA has been rewarded. The TFA Technical Team performance in this area, resulting in a carryover percentage of 9.7%, earns the contractor 7.5 effectiveness points in support of Critical Objective 1.3.

Environmental Technology Critical Outcome Performance Tables

ELEMENT	Performance Level	Effectiveness Score	Value Points	Weight	Weighted Points
1. Environmental Technology					
1.1 Develop innovative technologies and approaches					
1.1.1 Number of innovative technologies and approaches successfully demonstrated	14	90			
1.1.2 Provide significant solutions to Hanford problems/needs	71.5	81.5			
1.1.3 Number of new environmental technology concepts identified/disclosed	32	45.5			
	Obj 1.1 Total	217	4.8	40%	1.9
1.2 Ensure innovative technologies and approaches are deployed					
1.2.1 Number of formal expressions of interest entered into	12	95			
1.2.2 Number of innovative technologies and approaches successfully deployed in commercial practice	29	100			
	Obj 1.2 Total	195	4.9	45%	2.2
1.3 Effectively lead the technical aspects of the national Tanks Focus Area.					
1.3.1 Effective definition of technical solutions across the DOE complex	9.28	72.8			
1.3.2 Adequate technology delivery to solve complex-wide problems	89%	64			
1.3.3 Adequate tracking of technical progress to baseline	9.7%	7.5			
	Obj 1.3 Total	144.3	4.2	15%	0.6
				Total	4.7

Table 2A – Environmental Technology Critical Outcome Performance Rating Development

Total Score	5.0 - 4.5	4.4 - 3.5	3.4 - 2.5	2.4 - 1.5	<1.5
Final Rating	Outstanding	Excellent	Good	Marginal	Unsatisfactory

Table 2B - Environmental Technology Critical Outcome Adjectival Rating

2. Scientific Excellence

The thrust of this Critical Outcome is a measure of how effective the Contractor is in delivering more and better R&D for each dollar spent and how the Lab is viewed as a science and technology provider of choice in the markets it serves. Laboratory performance in FY 1998 for this Critical Outcome earned the contractor a rating of 3.9, **Excellent.** Notable achievements for FY 1998 were being awarded a total of 10 R&D100 and Federal Laboratory Consortium awards, outstanding peer reviews and excellent customer feedback, and amount of recognition by the scientific community. Areas that deserve continuing attention are the number of publications in peer reviewed journals, which declined from the number in FY 1997 and continued efforts in improving project management discipline. Tables 3A and 3B show how the outcome objectives were determined as well as the overall outcome rating.

2.1 Conduct quality scientific efforts that provide new insights.

In FY 1998, the Contractor did outstanding in peer reviews of relevance and excellence; increased 23% over FY 1997 in the measure of recognition by the scientific community which counted awards, invited talks, and committee service; and earned a total of 10 Federal Laboratory Consortium and R&D100 awards. However, a decrease in the number of publications in peer reviewed journals is an area that will benefit from scrutiny in FY 1999. Performance resulted in an overall rating of 3.8 for this Objective, corresponding to **Excellent.**

2.1.1 Results of Peer Reviews of relevance and excellence, including Divisional Reviews

DOE-RL staff have tracked the Contractor's progress on this activity throughout the year. This included exercising the opportunity to sit in on peer review meetings and reviewing reports on others. The Contractor's selection of the teams has been outstanding. Although the original schedule was viewed as very ambitious, Battelle successfully met all of their established objectives. One of the most significant benefits of the entire process is that the Contractor management and staff have developed an appreciation for the benefit of the peer review process to the Lab.

Based on these activities and observations, DOE-RL rates FY 1998 performance as outstanding for this indicator corresponding to 100 effectiveness points in support of Critical Objective 2.1.

2.1.2 Recognition by the scientific community, including awards, invited talks at major scientific meetings and service on major committees and scientific bodies

This indicator's purpose is a measure of the volume of quality scientific work performed as an annual trend within the Lab. The work that qualifies for this measure is determined by measuring recognition received by the science community. This measure was introduced in 1997, which established the baseline. A review of the data was made which found items, which were questionable, included (5 awards, 1 invited talk, and 8 committee service). The overall trend is an improvement over last year as reflected by the following:

- 1998 Awards matched those in 1997 at 24
- Invited talks almost doubled to 40 from 1997's 24
- Major Committee Service improved to 28 from 1997's 27

This performance level improvement represents a 23% improvement and earns the contractor 75 effectiveness points in support of Critical Objective 2.1. This rating agrees with the Battelle year-end evaluation. The Contractor needs to perform a quality check of the measures listed above to ensure they maintain significance to the objective's intent for conducting quality science.

2.1.3 Number of R&D 100 and Federal Laboratory Consortium (FLC) Awards

The number of R&D 100 and FLC Awards was remarkable this year. The Laboratory received seven R&D 100 awards, the most among the National Labs (tied with Lawrence Livermore). The three FLC awards were more than any other national lab. Moreover, during the past six years the Laboratory has received twice as many FLC awards as the next most awarded national lab (Lawrence Livermore). In both a historical context and in context with the other labs this performance stands out. The total of 10 R&D 100/FLC awards received surpasses 7.66 at the highest abscissa on contingency chart, maxing the effectiveness score for this indicator at 60 effectiveness points in support of Critical Objective 2.1.

2.1.4 Number of publications in peer reviewed journals

The number of peer-reviewed publications declined in FY 1998 to 401. A number of specific factors have been identified as responsible for the drop from last year. The beginning of a cross-laboratory benchmark for this indicator was presented with separate SciSearch queries of four other national labs over four years (page 22, FY1998 Annual Self-Evaluation Report, 10/19/98). However, the benchmarking effort appears to be problematic for a number of reasons:

- Counting the number of employees at each institution for whom publications are a significant component of their job (traditionally scientists and engineers) is difficult,
- Whether faculty, post-docs, graduate students, or undergraduate students are included in this count makes a big difference, and
- The proximity of large universities may make comparisons unfair to some extent.

We urge a continuation of efforts to correct for the above institutional incompatibilities in future benchmarking of peer-reviewed publication productivity (or tap into the related work being done by OBER mentioned in the FY 1998 Performance Agreement).

The number of 401 peer-reviewed publications if FY 1998 falls below the lowest abscissa on the contingency chart (425). This performance earns the Contractor –100 effectiveness points in support of Objective 2.1 and is in agreement with the value identified in the Contractor year-end evaluation.

2.2 Deliver high-value work that is relevant to DOE missions or national needs.

Measures in this Objective are intended to provide an indication of how well the Contractor is delivering high value work that is relevant to DOE missions or national needs. The Contractor continues to increase the number of academic partnerships, doing an outstanding performance in FY 1998. A survey of FY 1998 customers indicated the Laboratory was excellent on relevance and excellence of critical projects; however, the response rate of only 45% is a concern. Some suggestions are made below on how to enhance the process so that the information derived can be better utilized to effect organizational improvement. Project management discipline is an area where can benefit from continued improvement. A decrease in schedule performance as compared to FY 1997 is a concern. As noted below, change control processes may need some looking at as well as improving consistency in project performance reporting. The contractor earned a rating of 4.0 corresponding to **Excellent** for this objective.

2.2.1 Customer feedback on relevance and excellence of critical projects

The review conducted of the survey results included examination of customer comments and the numerical interpretation of the data. Response was received on 88 of 129 projects surveyed. The response rate improved slightly to 58% from 1997's 50% and the overall ratings again were very high (response percentage from the Work-For-Others clients is 53%). The average of customer's ratings for strategic value and project performance each slightly exceed 4.0 (out of 5.0) resulting in the **outstanding** rating for this indicator for the second year in a row. Using the average value of 4.1 for strategic value and 4.2 for project performance the contractor earns 200 effectiveness points in support of Critical Objective 2.2.

This is the second year in which the average rating achieved the minimum outstanding for both strategic value and project performance. Although the response rate is up, it could be improved substantially. We need to gain a better understanding of why 45% of projects considered critical are not generating sufficient interest in the customer to respond. Some questions remain regarding the effectiveness of this survey as a performance measure and for supporting process improvement. The criteria for selection of projects could be better defined, identifying the correct level of customer for surveying, and timing the survey to synchronize with the project performance cycle. Perhaps more effective survey results might be obtained by the inclusion of nearly all Laboratory projects. The value of the relevancy result seems to indicate a general satisfaction that each customer believes that the Contractor assigned scope of work is of high strategic value, as each customer understands his work as a critical component of some larger mission. Accepting that this may be true, this process gives no indication of what the relative strategic values of each project is nor are they normalized against the Laboratory's mission. What seems to lack clarity in the current Contractor analysis, is a value or means of using the relevancy information obtained through this process.

2.2.2 Demonstrate project management discipline across product lines by meeting critical milestones and budget baselines

This indicator measured both schedule and budget performance on 47 projects. DOE-RL and the Contractor worked together to identify and formally document a list of projects which comprised a wide range of

activities representing 19 of the Laboratory's 22 product lines, each of the four Laboratory research divisions, and the Facilities and Operations Directorate. Progress reporting to the Associate Laboratory Directors, Product Line Managers and Project Managers continues to reinforce communication and demonstrates effective use of project management tools. Of noteworthy mention: project Prep & Risk forms were accessible for all participating projects, with the exception of 1831 projects.

Schedule Performance – Schedule performance of 79% was a 5% reduction from the fiscal year 1997 performance, a figure in agreement with the Battelle year-end evaluation. Explanations for missed milestones, provided by project managers, supports the need for continued improvement in documenting changes and working with the client to obtain agreement and understanding of the changes. Schedule performance improvement of –5% as compared to FY 1997 earns the contractor –50 effectiveness points in support of Critical Objective 2.2.

Budget Performance – Budget performance increased significantly over fiscal year 1997. A review of documentation indicated that 91% of the participating projects were completed on or under budget rather than the 94% reported in the FY 1998 Annual Self-Evaluation Report for the Pacific Northwest National Laboratory dated October 19, 1998. One project's performance reported in the September status report was inconsistent with performance information contained in a different report that was provided to the DOE-RL Project Manager. Information on project performance, including terminology, should be used consistently in all project and status reporting documentation. Budget performance improvement of 8% as compared to FY 1997 earns the contractor 0 effectiveness points in support of Critical Objective 2.2.

Continued emphasis should be placed on increasing the understanding and improving the use of project management discipline by the Contractor. Overall performance for this indicator is –50 effectiveness points in support of Critical Objective 2.2.

2.2.3 Number of quality Academic Partnerships

This indicator measures the number of partnerships between Contractor staff and faculty of colleges, universities, and other academic support organizations, which enhance the research and education mission. Eighty partnerships were established or maintained (the Northwest is represented by 38 of these partnerships) greatly exceeding the **outstanding** target of 50 and earning the contractor 40 effectiveness points in support of Critical Objective 2.2. This compares with the 40-university/college level partnerships established in 1997. The increase was attributed primarily to the EMSL attraction as a user facility. The value of these many relationships is in the degree of openness through which these institutions can gain access to the Lab's capabilities enhancing the institution's educational value and conversely the Lab benefits from the broad exposure to the academic science community enhancing it's technical capabilities. It is noted that the past and current targets are consistently exceeded. The value of this measure as a support to the

critical outcome of Science Excellence should be reviewed. Perhaps the evaluation of a few key relationships could better represent the measure of the value of these relationships.

Scientific Excellence Critical Outcome Performance Tables

ELEMENT	Performance Level	Effectiveness Score	Value Points	Weigh t	Weighted Points
2. Scientific Excellence					
2.1 Conduct quality scientific efforts that provide new insights.					
2.1.1 Results of Peer Reviews of Relevance and Excellence, including Divisional reviews	Outstanding	100			
2.1.2 Recognition by the scientific community, including awards, invited talks at major scientific meetings, and service on major committees and scientific bodies	+ 23%	75			
2.1.3 Number of R&D 100 and FLC Awards	7.66	60			
2.1.4 Number of publications in peer reviewed journals	401	- 100			
	Obj 2.1 Total	135	3.8	50%	1.9
2.2 Deliver high-value work that is relevant to DOE missions or national needs.					
2.2.1 Customer feedback on relevance and excellence of critical projects	4.1,4.2	200			
2.2.2 Demonstrate project management discipline across all product lines by meeting critical milestones and budget baselines	Milestone - 50 Budget 8%	- 50 0			
2.2.3 Number and quality of academic partnerships	80	40			
	Obj 2.2 Total	190	4.0	50%	2.0
				Total	3.9

Table 3A - Scientific Excellence Critical Outcome Performance Rating Development

Total Score	5.0 - 4.5	4.4 - 3.5	3.4 - 2.5	2.4 - 1.5	<1.5
Final Rating	Outstanding	Excellent	Good	Marginal	Unsatisfactory

Table 3B - Scientific Excellence Critical Outcome Adjectival Rating

3. Scientific and Technical Contributions

This Critical Outcome measures Contractor progress in scientific and technical contributions to the core capabilities, missions, goals, and objectives of the Department of Energy. The Contractor performed very well in FY 1998 and, aside from one objective below, performance was Outstanding for all the Critical Objectives under Critical Outcome 3.0. This earned the contractor a rating of 4.4, corresponding to **Excellent** for FY 1998. Tables 4A and 4B show how the outcome objectives were determined as well as the overall outcome rating.

3.1 Develop and apply innovative arms control, nonproliferation, and intelligence technologies that enhance national security and reduce the danger from weapons of mass destruction.

Battelle has performed superbly in this area and continues a reputation for its ability to provide expert staff in support of US and United Nations national security initiatives. The Contractor delivered two high value contributions to national security issues in FY 1998 and increased utilization of the Wiley Laboratory; this performance earned the contractor a rating of 4.7,corresponding to **Outstanding,** for this Critical Objective.

3.1.1 Number of relevant contributions to national security problem solutions

The Laboratory provided two significant solutions to national security issues, the target for FY 1998. Laboratory facilities and National Security Division staff are nationally and internationally recognized for their ability to contribute credible solutions to security issues. The two contributions in FY 1998 provided detection capability technology in support of the Comprehensive Test Ban Treaty and performed as on-site advisors in an activity regarding the disposition of irradiated nuclear fuel in the Democratic Peoples Republic of Korea.

This performance earns the contractor 100 effectiveness points in support of Critical Objective 3.1.

3.1.2 Wiley Laboratory contributions addressing national security problems

The Wiley Laboratory (Environmental Molecular Science Laboratory - EMSL) is a significant national asset for scientific research. In FY 1998 an effort was made to tap this recently inaugurated Laboratory resource by enhancing EMSL participation in providing solutions to national security issues. By the end of FY 1998, eight EMSL technical groups had contributed to solutions in 16 National Security Division projects. This performance earns the contractor 53 effectiveness points in support of critical Objective 3.1.

3.2 Diversify the laboratory science and technology (S&T) Energy Business.

This objective is intended to measure the increased diversification of the Laboratory's science and technology Energy business. Misunderstanding of schedule for funding renewal adversely affected the performance in one component of this objective, maintenance of Energy portfolio balance. DOE recognizes Contractor performance in the other components of this indicator, however the overall rating for this objective is 3.0, corresponding to **Good**.

3.2.1 Diversification of the S&T based energy business

This indicator (incorporating the formally approved change) was composed of three parts: 1) sales to clients affiliated with the Northwest Alliance for Transportation Technology (NATT), 2) sales in Industrial and International work, and 3) maintenance of the balance of the Energy portfolio to within 97% of FY 1997 levels. The third component of this indicator threw the Contractor off track for overall performance due to a misunderstanding of the anticipated schedule for renewal of funding for one large project; in the future, both DOE and Battelle may both want to be wary of such progress-on-all-fronts approaches. A re-direction in the Laboratory's areas of thrust may on occasion necessitate backing off of other areas; such strategic retreats should not be discouraged through indicators. The Department is pleased with the Energy Division's performance on this objective. Nevertheless, the terms of the Performance Agreement dictate the performance evaluation of good, in agreement with the Contractor year-end evaluation, and this corresponds to 0 effectiveness points for Critical Objective 3.2.

3.3 Develop and expand fundamental research programs coupled to the mission of DOE and other mission-oriented agencies.

This Critical Objective measures Contractor success by measuring the increase in Principle investigator staff and by measuring the increase in programs representing other mission areas. In both of these areas Battelle performed at an **Outstanding** level, earning the contractor a rating of 5.0.

3.3.1 Number of staff obtaining PI status on PI-initiated fundamental research grants

PI initiated research grants increased from the FY 1997 baseline of 146 grants to 163 in FY 1998, an 11.6 % increase. The number of staff acting as PIs has increased from the FY 1997 baseline of 81 to 85 in FY 1998. The growth areas represented a wide spectrum of research, in line with the Laboratory's desire to broaden its research base. This in itself is good. However, a weighting of components within the spectrum of research that are the most important to the Department of Energy should be considered, as it would be possible to have an overall increase in basic research resulting in an outstanding rating without the increases actually representing Department of Energy priorities. The increased of 11.6% in number of staff obtaining PI status on PI initiated research grants corresponds to the contractor earning 100 effectiveness points in support of Critical Objective 3.3.

3.3.2 Agencies providing fundamental research funds

The number of agencies providing fundamental research funding resulted in 4 new programs for FY 1998. Growth in this area strengthens the Laboratory though diversity of program areas. This performance earns the contractor 75 effectiveness points in support of Critical Objective 3.3.

3.4 Develop research programs within the Wiley Laboratory that effectively use its resources supporting both fundamental and applied research needs.

The Environmental Molecular Science Laboratory, the Wiley Laboratory, is a high value resource in the DOE's Laboratory complex. Effective utilization of this resource is a high priority for the Department and the contractor was successful in meeting the FY 1998 funding goal by halfway though the fiscal year, perhaps suggesting the goal was not sufficiently ambitious. None-the-less, this performance is appreciated by DOE and earned the contractor a rating of 5.0 corresponding to **Outstanding.**

3.4.1 Wiley Laboratory research funding FY 1999 against the projected research curve

In FY 1998 the Wiley Laboratory raised funding of $18.3M. The Contractor had projected funding required for FY 1998 operations at $16M. However, the Wiley Laboratory had achieved the maximum goal by half way through the fiscal year, perhaps indicating that the indicator's expectations for funding were set too low. Performance for this indicator exceeded the maximum expected, earning the contractor 100 effectiveness points in support of Critical Objective 3.4.

3.5 Diversify the environmental science and technology base and increase the scientific and technical contributions to clients.

This indicator was intended to measure Contractor success at diversification of the Environmental science and technology business base. The contractor succeeded with outstanding performance in FY 1998 along both axis of measure: increase in sales over FY 1998 and increase in clients. This performance earned the contractor a rating of 5.0 or **Outstanding** for FY 1998.

3.5.1 Number of environmental S&T clients

This indicator measured progress towards developing new environmental science and technology clients. Performance was measured in two dimensions, the percent increase in number of clients over FY 1997 and the percent increase in dollar volume of sales over FY 1997. This dual measure allowed for flexibility but avoided incentivizing an increase in one dimension at the expense of the other (i.e. a large number of small sales or small number of large value sales). Laboratory environmental clients increased 27% over FY 1997 and the sales dollar volume experienced a 50% increase over FY 1997. This places the Contractor's performance solidly in the outstanding range and earns 100 effectiveness points for Indicator 3.5.1.

Scientific and Technical Contributions Critical Outcome Performance Tables

ELEMENT	Performance Level	Effectiveness Score	Value Points	Weight	Weighted Points
3. Scientific & Technical Contributions					
3.1 Develop and apply innovative arms control, nonproliferation, and intelligence technologies that enhance national security and reduce the danger from weapons of mass destruction.					
3.1.1 Number of relevant contributions to national security problems	2	100			
3.1.2 EMSL contributions to national security problems	8	53			
	Obj 3.1 Total	153	4.7	30%	1.4
3.2 Diversify the Laboratory science and technology (S&T) Energy Business.					
3.2.1 Diversification of the S&T based energy business	Good	0			
	Obj 3.2 Total	0	3.0	30%	0.9
3.3 Develop and expand fundamental research programs coupled to the mission of DOE and other mission oriented Laboratories.					
3.3.1 Number of staff obtaining Principle Investigator-Initiated fundamental research grants.	11.6%	100			
3.3.2 Number of agencies providing fundamental research funds	4	75			
	Obj 3.3 **Total**	175	5.0	15%	0.8
3.4 Develop research programs within the Wiley Laboratory that effectively use its resources supporting both fundamental and applied research needs.					
3.4.1 Wiley Lab research funding FY 1999	$18.3M	100			
	Obj 3.4 Total	100	5.0	15%	0.8
3.5 Diversify the environmental science and technology business base and increase the scientific and technical contributions to clients.					
3.5.1 Number of environmental S&T clients	New Clients 27% Dollar Volume 50%	100			
	Obj 3.5 Total	100	5.0	10%	0.5
				Total	4.4

Table 4A - Scientific and Technical Contributions Critical Outcome Performance Rating Development

Total Score	5.0 - 4.5	4.4 - 3.5	3.4 - 2.5	2.4 - 1.5	<1.5
Final Rating	Outstanding	**Excellent**	Good	Marginal	Unsatisfactory

Table 4B - Scientific and Technical Contributions Critical Outcome Adjectival Rating

4. **Operational Excellence**

This Critical Outcome was established to measure improvements in the delivery of operational and safety requirements to enable accomplishment of the scientific and technical missions at the Laboratory. Substantial progress has been made toward integrating EH&S requirements into the conduct of work through the Standards Based Management Systems. Enhancements to the operational infrastructure continue to be identified and implemented based on mission requirements.

RL agrees that there is a greater awareness and attention to ES&H issues especially when staff are involved in the planning phase and we were very pleased with the review and verification of the Laboratory Integrated Safety Management system. Battelle has also made significant progress toward integrating safety and environmental management practices into daily operations, and many changes have been noted.

Battelle has demonstrated excellent performance in the management and use of Laboratory facilities and assets, including cost control and reduction of the cycle time for engineering requests. They also maintained control of vacant facilities as well as the required inspections. Furthermore they successfully transferred 10 surplus facilities to other contractors for final disposition. Battelle's commitment to occupational safety and health, radiological control, and waste management and environmental protection was strong during FY 1998; however, there are areas requiring improvement, such as the conduct of operations in the 306W facility, and the waste management program. Battelle has recognized these problems and taken appropriate actions to address them.

RL agrees that performance regarding this critical outcome for Fiscal Year 1998 has been **Excellent**, with the overall weighted points assigned 4.0.

4.1 Establish full integration of ES&H activities into work practices and management at all Laboratory levels.

Battelle has made substantial progress towards establishing full integration of ES&H activities within the Laboratory. However, this progress did not represent the extent of deployment that RL was expecting based on the performance objective. Details related to this determination may be found in the "Joint Independent Oversight Report, IO-99-05, Special Study of Fiscal Year 1998 Performance Indicators 4.1.1 and 4.1.6." An effectiveness score of 213.5 was established based on RL's evaluation of the indicators, which equates to an **Excellent** (4.2 value points). This adjustment accounts for the difference in the PNNL reported core and that score assigned by DOE.

4.1.1 Line managers and staff throughout the Laboratory are clearly responsible for ES&H performance.

Performance Indicators 4.1.1 and 4.1.6 used the same self-evaluation process. Therefore the information on approach, deployment and use of results applies to both.

DOE RL and the Contractor's Independent Oversight (IO) organization performed a joint validation of the evaluation results for the two performance indicators. The objective of this joint evaluation

was to validate the numerical rating assigned by the Contractor for Performance Indicator 4.1.1 and 4.1.6. The baseline numerical ratings were derived from the Independent Oversight special study, *Evaluation of the Integrated Environment, Safety and Health Management System, IO-97-16*, dated September 17, 1997. Based on the results of this validation it was determined that a score of 2.9 for 4.1.1 and 3.0 for 4.1.6 more accurately reflects the observed performance. These scores translate to 40 and 47.5 total effectiveness points respectively.

4.1.2 ES&H roles, responsibilities, accountabilities and authorities are clearly established throughout the Laboratory.

RL agrees with the score of 4.1 achieved by Battelle for this indicator. We also agree that the variability in the survey results introduced some uncertainty relative to actual performance.

4.1.3 Staff Competence and level of knowledge throughout the Laboratory is commensurate with assigned responsibilities.

RL agrees with the final effectiveness score of 75 for this indicator. The measure developed was not optimized to provide an accurate and timely status of staff competence within the Laboratory throughout the year.

4.1.4 A proper balance of priorities between the science and technology mission and ES&H performance is achieved throughout the Laboratory.

The target value of 80 percent for this indicator was exceeded (82.2%). This provided the maximum effectiveness score of 50. The measurement basis may not be an accurate reflection of the intent of the indicator.

4.1.5 ES&H standards and requirements are clearly identified

The intent of the indicator was to establish whether ES&H standards and requirements are clearly identified. The FY 1998 performance of 3.6 (on a 1 to 5 scale) provides for 0 effectiveness points for this indicator.

4.1.6 Work authorizations and controls are tailored to work hazards

See information provided in 4.1.1 above.

4.2 Objective – Achieve operational excellence in worker safety and health, and environmental protection

The intent of this objective is to drive improvement in the Occupational Safety and Health Program, Radiation Control Program, Waste Management and Environmental Protection Programs. RL agrees with the Contractors assessment of **Excellent** (3.7 value points) indicated within their Self-Assessment Report for this objective.

4.2.1 Occupational Safety and Health

Overall the Occupational Safety and Health performance indicators reflected improvement through the year. One area where they did not meet performance expectation was the completion of the new hire

Employee Job Task Analysis (EJTA). The score on the EJTA indicator was 85% verses a target of 95%. Performance indicators for Lost WorkDay Case Rate and the Days Away from Work Rate were significantly better than targeted performance. Battelle has developed and implemented an integrated hazard analysis. In addition, there has been some improvement in the chemical management system; however, there still is room for more improvement, which will require management attention next year. RL agrees with the Contractors assessment of this indicator assigning it 3.7 value points.

4.2.2 Radiological Control

RL agrees with Battelle's assessment of this indicator and the assignment of 3.3 value points.

The Contractor did not meet expectations within three of the sub-indicators in this area; they were unplanned exposures, unplanned depositions, and uncontrolled release. This was due to events in the 306W and 325 facilities. Otherwise, Contractor personnel have performed well in the implementation of Radiological Control functional and compliance with 10 CFR 835 and the Hanford Site Radiological Control Manual. The Contractor conducted several self-assessments regarding radiological activities to verify overall compliance; identifying additional areas for improvement.

4.2.3 Waste Management and Environmental Protection

RL agrees with the Battelle assessment and the assignment of 4.3 value points.

In regard to the waste management and environmental protection programs the Contractor has met expectations; however, several areas need improvement. During the year, a number of audits were conducted to verify compliance. These audits were found to be useful tools in helping improve performance. Some challenges exist in the waste management program and the Contractor is taking actions to correct the problems identified. Documentation for waste packages was prepared correctly during FY 1998, and none were rejected. Pollution prevention has done an excellent job this year; Contractor personnel participated in several events to share experiences. Several issues of noncompliance were noted early in the year and the Contractor fell well short of the target level (10%) on the seven-day turnaround with 90% of the paperwork exceeding the seven-day turn-around cut-off. However, actions were initiated and improvements in this area are being demonstrated.

4.3 Achieve excellence in the management and use of Laboratory facility assets

RL agrees with the Contractors assessment of **Excellent** (4.2 value points) indicated within their Self-Assessment Report for this objective.

4.3.1 Physical asset acquisitions and modifications follow an integrated and systematic process

The Contractor's target was to carry over less that 30 % of the total EM and ER GPP funds. At year-end, the Laboratory performed better than the target by carrying over only 19.3%. The benefit derived from this performance indicator is assisting the Contractor in establishing

approximately 20% as a standard carryover target. The Composite Cost Performance Index (CPI) is calculated as the "budgeted cost of work performed divided by actual cost of work performed". The CPI at year-end was 1.03, which was well within the established range of 1.04. The Cycle Time for Engineering Requests was developed to drive improvements in the Contractor's decision making process for identifying and correcting facility deficiencies. This sub-indicator measured the ability to accomplish rapid implementation of improvements. The Contractor's performance this year was 5.5 days, which is better than the expected goal of 15 working days. Battelle participated in three significant benchmarking efforts this fiscal year, using data collected to make approximately $3M in cost reduction improvements. Based on the above this indicator earned 4.7 value points.

4.3.2 Utilization of space in commensurate with science and technology mission needs

The total of 4.4 value point awarded to this indicator is in agreement with the Contractor Self-Assessment Report. The actual average office space square foot per person indicator was designed to optimize office space. It was intended to help ensure that the Contractor housed staff in an economical and efficient manner. Battelle completed this fiscal year with an average of 133.3 square feet per person, which is lower than the target of 135 square feet per person. In FY 1999, additional emphasis will be placed on this indicator by drilling down into this data. This will allow the Contractor to understand Division or Directorate behaviors that have been established since the implementation of the space chargeback system. This understanding will be the initial step in developing office space standards.

4.3.3 Maintenance requirements and work performance ensures physical asset availability for planned use

In the area of maintenance requirements and work performance to ensure physical asset availability, the Contractor's performance for the set of four sub-indicators ranged from less than expected to target. The Contractor's maintenance work request backlog was reduced from 39% at the start of this fiscal year to 27% at year-end exceeding the target level of 35%. Battelle's performance in controlling maintenance overtime usage was good. Overtime usage during this fiscal year remained consistent with overtime usage during last fiscal year; however, the Contractor was able to reduce the work request backlog significantly. Although they did not achieve the target goal of 6%, they did achieve reasonable control of overtime usage at 6.5% for the fiscal year. Battelle performance relative to decreasing the average time for completing a work request was not as good as expected during this fiscal year. The Contractor was expected to achieve an average of 53 days and had a target of achieving a 48-day average. The work request average age started the fiscal year with a decrease from 60 to 57 days' average, but then remained at 57 days through to the end of the fiscal year. Based on the above the total value points earned for this indicator was 3.5.

4.3.4 Surplus physical assets are managed to reduce cost and risk

The Contractor met the inspection requirement to inspect each DOE facility that was vacant for more than 180 days. The inspections were

conducted at least twice for radiological contamination and at least once for non-radiological contamination. Another performance sub-indicator was to transfer 32 DOE owned surplus facilities to other contractors for final disposition. The Contractor was only successful in transferring 10 of the 32 facilities for a 33.3% transfer success ratio. This provided for a total of 4.3 value point for this indicator, which is consistent with that provided within the Battelle Self-Assessment Report.

Operational Excellence Critical Outcome Performance Tables

ELEMENT	Value Points Tables 4.1-4.7	Weight	Performance Level	Effectiveness Score	Value Points	Obj. Weight	Weighted Points
4. Operational Excellence							
4.1 Establish full integration of ES&H activities into work practices and management . . .							
4.1.1 Line managers and staff throughout the Laboratory are clearly responsible for ES&H performance			2.9	40			
4.1.2 ES&H roles, responsibilities, accountabilities and authorities are clearly established throughout the Laboratory			4.1	1			
4.1.3 Staff competence and level of knowledge is commensurate with assigned responsibilities			91.9%	75			
4.1.4 A proper balance of priorities between the science and technology mission and ES&H performance . . .			82.2%	50			
4.1.5 ES&H standards and requirements are clearly identified			3.6	0			
4.1.6 Work authorizations and controls are tailored to work hazards			3.0	47.5			
			Obj 4.1 Total	213.5	4.2	34%	1.4
4.2 Achieve operational excellence in worker safety and health, and environmental protection.							
4.2.1 Occupational Safety & Health Composite	3.7	33%			1.2		
4.2.2 Radiological Control Composite	3.3	34%			1.1		
4.2.3 Waste Management and Environmental Protection Composite	4.3	33%			1.4		
			Obj 4.2 Total		3.7	33%	1.2
4.3 Achieve excellence in the management and use of Laboratory facilities and assets.							
4.3.1 Physical asset acquisitions and modifications follow an integrated and systematic process	4.7	25%			1.2		
4.3.2 Utilization of space is commensurate with science and technology mission needs	4.4	35%			1.5		
4.3.3 Maintenance requirements and work performance ensures physical asset availability for planned use	3.5	25%			0.9		
4.3.4 Surplus physical assets are managed to reduce cost and risk	4.3	15%			0.6		
			Obj 4.3 Total		4.2	33%	1.4
						Total	4.0

Table 5A – Operational Excellence Critical Outcome Performance Rating Development

Total Score	5.0 - 4.5	4.4 - 3.5	3.4 - 2.5	2.4 - 1.5	<1.5
Final Rating	Outstanding	Excellent	Good	Marginal	Unsatisfactory

Table 5B - Operational Excellence Critical Outcome Adjectival Rating

5. **Leadership and Management**

Based upon progress observed through operational awareness, review of the Contractor's self-assessment activities, and other factors, the RL FY 1998 rating for this outcome is 4.2, **Excellent.** Marked improvement in the indicators associated with Objectives 5.1 and 5.2 and level performance against Objective 5.3 characterizes this outcome. Tables 6A and 6B show how the outcome objectives were determined as well as the overall outcome rating.

5.1 The Contractor's leaders/managers create a work environment that is supportive of innovation

The overall QWL survey once again provided a wealth of information for utilization within the overall Contractor improvement agenda. The three major areas of the survey utilized for this composite (listed below) all showed extraordinary improvement over FY 1997, well exceeding RL expectation's. RL agrees with the Battelle self-evaluation rating of **Outstanding** (5.0 value points) provided for this objective. The 10 percent improvement in survey response rate (from 53% to 63%) was also noteworthy.

Although outstanding overall, the QWL data below the summary data indicates there is room for improvement in several important demographic areas. Senior scientists and engineers as well as Native Americans are populations whose concerns need to be better understood and addressed more effectively. In order to ensure continuous improvement, these must be a factor in future activities.

5.1.1 Composite evaluation of Leadership and management focus areas as determined by 1998 Quality of Worklife (QWL) survey

5.1.1.1 Performance Feedback (Laboratory Wide)

Fifty-eight percent of staff responded positively in this area exceeding the highest expectations by eight percent and indicating a fourteen percent improvement over FY 1997.

5.1.1.2 Customer Service Model Implementation (Laboratory Wide)

Sixty-one percent of staff responded positively to this composite of questions to measure how well staff members understand strategy, the business model, and their role within it. This was a fifteen percent improvement over FY 1997 and exceeded RL's highest expectations for FY 1998 by seven percent.

5.1.1.3 Management Alignment, Associate Laboratory Directors/Division Directors (Laboratory Wide)

This composite measured staff perception of their Level One Management's efforts in leading and communicating direction and in creating a supportive work environment. Sixty percent of staff responded positively in this area

exceeding the highest RL expectations by seven percent and indicating a fifteen percent improvement over FY 1997.

5.2 Battelle Leadership effectively uses self-assessment to monitor performance and to drive needed improvements enabling DOE to optimize oversight activities.

Although there has been significant improvement in both the Contractor's internal evaluation of the implementation (32% higher) and the DOE satisfaction with the integrated assessment process (10% improvement), there are indicators of potential anomalies below the summary level. These may be traced to several factors, including flaws in the DOE survey method of determining DOE satisfaction. The survey does not currently distinguish between satisfaction with the process and satisfaction with non-involvement. There also may be inconsistent implementation of self-assessment at appropriate levels within various Contractor organizations, which mask deficiencies. This points to areas of improvement for future activity. At this time, based upon the agreed upon indicators, progress is consistent with that of a midterm evaluation of a multi-year process. Consequently, the rating for this objective is **Excellent** (4.2 value points), tempered by the knowledge that there remain issues to resolve in order to sustain progress. This is the same rating identified in the Contractor's self-evaluation report.

5.2.1 Contractor's Internal Oversight's annual average rating of the Divisions/Directorates self-assessment program performance

The Contractor's Internal Oversight organization's review of the Division/Directorate's self-assessment activities indicated a 32 percent improvement over FY 1997, achieving the highest performance level (3.7) set for FY 1998, providing 100 effectiveness points toward this objective.

5.2.2 DOE's satisfaction with the implementation of the Contractor's self-assessment process

Sixty-five percent of the survey respondents rated their satisfaction with their involvement in the Integrated Assessment process as satisfactory (3) or above in a 5 point scale. This is a 7 percent improvement over FY 1997 and provided 19.7 effectiveness points toward this objective.

5.3 Provide effective and efficient business management that enables accomplishment of objectives.

Four aspects of this objective are considered in this evaluation; two, dealing with management efficiency, and two, dealing with management effectiveness. In the case of management efficiency, the Contractor did not achieve the expected level of performance in either of the research to support staff ratio or the average cost per research FTE. The primary reason for this lower than expected performance was the under-utilization of educational interns. This variable was tracking against historical norms for the first half of the year but the expected second half increase did not materialize. In the future, leading indicators for this variable will be implemented to ensure against future surprises. In the case of management effectiveness, both DOE satisfaction with business management effectiveness and internal satisfaction with system effectiveness were in the excellent range. Taken in summary, the rating for this objective is **Good** (3.4 value points). This agrees with the adjectival rating within the Contractor's self-evaluation, however the value points awarded are slightly higher due to the final assessment of indicator 5.3.3.

5.3.1 Research support staff labor ratio

This indicator, which follows how the Contractor is deploying Laboratory staff, fell short of expectations for FY 1998 earning a – 41.7 effectiveness points. The reduction in the utilization of graduate and post doc students as well as delays in hiring of research staff effected performance.

5.3.2 Average cost per research FTE

RL also agrees with the Battelle self-evaluation regarding this indicator showing an average cost per research FTE over the target of $116K by $7K ($123K). This provided for –25 effectiveness points for this indicator.

5.3.3 DOE's evaluation of overall Contractor performance in the business management functional areas

The FY 1998 review of Battelle business management functional areas indicated that overall they are meeting or exceeding RL expectations and a rating of 4.3 was awarded providing for 41.3 effectiveness points for this indicator. The following table indicates the ratings awarded by each functional area. Details regarding each can be found within the Business Management Oversight Review Report appended to this document and within Section III, "Self-Assessment Reviews."

	Business Management (BMOP) Activity	Adjectival Rating	Value Points
(1)	Administrative Services (Printing – 4.0, Library – 5.0)	Excellent/Outstanding	4.5
(2)	Congressional, Public, and Intergovernmental Affairs	Excellent	4.0
(3)	Diversity	No Rating Rec'd	--
(4a)	Finance	Excellent	4.0
(4b)	Budget	Excellent	4.0
(4c)	Internal Audit	Outstanding	5.0
(5)	Information Management (Records Management/Y2K)	Excellent	4.0
(6)	Laboratory and Institutional Business Planning	Excellent	4.0
(7)	Life Cycle Assets Management	Outstanding	5.0
(8)	Manpower and Personnel (Human Resources)	Excellent	4.0
(9a)	Safeguards and Security	Excellent	4.0
(9b)	Classification/Declassification	Excellent	4.0
(9c)	Emergency Management	Excellent	4.0
(10)	Personal Property	Outstanding	5.0
(11)	Procurement	Good	2.5
(12)	Scientific and Technical Information Administration	Outstanding	5.0
(13)	Technical Partnerships Administration	Outstanding	5.0
(14a)	Worker Transition	Excellent	4.0
(14b)	Community Transition	Outstanding	5.0
(15)	Work-for-Others Administration	Excellent	4.0
(16)	Legal and Patent Services	No Rating Rec'd	--

5.3.4 Internal customer satisfaction with the quality and effectiveness of business management functions delivered products and services

The performance level of 3.7 (on a 5.0 scale), which met the highest expected level of performance for FY 1998 (100 effectiveness points),

indicated a strong improvement over FY 1997 in this area. A number of areas, including willingness to understand business needs and requirements of programs, training and documentation of procedures and requirements, and delivery time, all showed significant improvement.

Leadership and Management Critical Outcome Performance Tables

ELEMENT	Performance Level	Effectiveness Score	Value Points	Weight	Weighted Points
5. Leadership and Management					
5.1 Battelle's leaders/managers create a work environment that is supportive of innovation.					
5.1.1 Composite evaluation of the Leadership and Management focus areas determined by QWL staff survey	5.1.1.1 58% 5.1.1.2 61% 5.1.1.3 60%	70 80 100			
	Obj 5.1 Total	250	5.0	30%	1.5
5.2 Battelle Leadership effectively uses the Integrated Assessment Program to monitor performance and to drive needed improvements enabling DOE to optimize oversight activities.					
5.2.1 Contractors' Internal Oversight annual averaged rating of the Divisions/Directorates self-assessment program performance	3.7	100			
5.2.2 DOE's satisfaction with the implementation of the Contractors self-assessment processes	65%	19.7			
	Obj 5.2 Total	119.7	4.2	40%	1.7
5.3 Provide effective and efficient business management that enable accomplishment of objectives.					
5.3.1 Research/Support staff labor ratio	2.51	- 41.7			
5.3.2 Average cost per research FTE	$123	- 25			
5.3.3 DOE's evaluation of the overall Contractor performance in the business management functional areas	4.3	41.3			
5.3.4 Internal customer satisfaction with the quality and effectiveness of business management functions delivered products and services	3.7	100			
	Obj 5.3 Total	74.6	3.4	30%	1.0
				Total	4.2

Table 6A – Leadership and Management Critical Outcome Performance Rating Development

Total Score	5.0 - 4.5	4.4 - 3.5	3.4 - 2.5	2.4 - 1.5	<1.5
Final Rating	Outstanding	Excellent	Good	Marginal	Unsatisfactory

Table 6B - Leadership and Management Critical Outcome Adjectival Rating

6. Community Relations

Based upon progress observed through operational awareness, review of the Contractor's self-assessment activities, and other factors, our FY 1998 rating is 5.0, **Outstanding**, for the Community Relations Critical Outcome. Performance against the indicators associated with Objectives 6.1, 6.2 and Objective 6.3 exceeded expectations for this outcome. Tables 7A and 7B show how the outcome objectives were determined as well as the overall outcome rating. The ratings and rationale for each objective are as follows:

6.1 Battelle will serve the communities to further enhance the Laboratory's status as a valued corporate citizen of the Northwest Region.

In support of this objective. Battelle conducted surveys of local opinion leaders, regulators and the general populace to obtain feedback relative to community perceptions of Laboratory corporate citizenship. Results indicated a positive perception along with several areas for improvement. A program has been implemented to improve the Laboratory's presence in the community. Enhancements have been identified to improve Laboratory performance relative to leadership of volunteerism, responsiveness to minority concerns and better understanding of the Laboratory's mission by the community. These criteria establish performance as **Outstanding** (5.0 value points). This rating agrees with that established by the Contractors self-assessment.

6.2 Battelle will put technology to work in the Tri-Cities and region to create and sustain a diversified and strong economy.

Battelle exceeded all RL expectations within this objective earning a rating of Outstanding (5.0 value points). This rating agrees with the Contractor self-assessment and indicates Battelle's continuing support of the region in the face of shrinking funding for such activities.

6.2.1 The number of new businesses started in the area

Battelle performed very well, having been instrumental in the formation of 12 businesses, for a total of 100 effectiveness points. RL-MET staff visited the 12 businesses and evaluated them against ten criteria.

Generally, to be considered a viable business, RL considers that eight of the ten criteria must be met. Battelle submitted a candidate list of 12. Visits to each verified all firms met the criteria. Therefore, Battelle has been credited with helping start the following 12 businesses: AGIS. Advanced Concepts, Berkeley Instruments, Biogard, Farwest Technology, HEAT, Iso-Ray, Knight Sports, Livingston Rebuild Center, Mesoscopic Devices, MesoSystems Technology, and U. S. Teleservices. The 12 companies offer vastly different products or services, and the Contractor's assistance to them consisted of varied kinds of support, such as technical assistance, entrepreneurial leaves of absence, business contacts, etc.

6.2.2 The proportion of businesses started in FY 1997 that are sustained through the subsequent fiscal year

Battelle performed extremely well in this area; all of the ten businesses started in FY 1997 were still operating as of the end of FY 1998. This

100 percent performance, warranting 60 effectiveness points, compares to a range of from 40 to 80 percent nationally of businesses continuing to operate the year following their startup.

6.2.3 Number of technology based jobs created or sustained

Battelle performed extremely well in this area, helping create some 74 jobs spread among 28 small firms, which Battelle helped in startup, recruiting, and/or technical assistance. More than 50 of these jobs were verified by an examination of correspondence from the benefiting companies.

6.3 Battelle will continue/establish partnerships with local and regional organizations to enhance science, mathematics, and technology reform efforts in schools.

Despite reduced direct sponsorship by DOE, Battelle continues to have significant impact on science, mathematics, and technology education reforms. The Contractor continues to forge new linkages with educational organizations and to strengthen existing ones, exceeding expectations for partnerships this year. In addition, significantly higher involvement by individual students characterized this year's performance. Perhaps most emblematic of the strength of the programs for student appointees is that approximately 45% of the appointments were funded by external sponsors and were placed at the request of these community organizations. Performance at this level is deserving of an **Outstanding** rating (5.0 value points) which agrees with the Contractor's self-evaluation.

6.3.1 Number of partnerships between Battelle and school districts and other academic support organizations in support of science, mathematics, and technology education reform

The 25 partnerships identified regarding this indicator exceeded the goal earning 100 effectiveness points.

6.3.2 Number of teacher and student (K-14) appointees from local/regional academic organizations who participate in research/education appointments at PNNL

The 50 appointments during FY 1998 far exceeded expectations based on the amount of resources available. Thirty-four of the appointments were solely funded by organizations outside of the Laboratory while 40 were funded by the University Science and Education Programs. This performance earned 50 effectiveness points toward the overall objective.

Community Relations Critical Outcome Performance Tables

ELEMENT	Performance Level	Effectiveness Score	Value Points	Weight	Weighted Points
6. Community Relations					
6.1 Battelle will serve the communities to further enhance the Laboratory's status as a valued corporate citizen . . .					
6.1.1 Feedback from the local communities regarding their involvement in, and understanding of, the Lab's missions and programs	Outstanding	100			
6.1.2 Feedback from Northwest regulators regarding their involvement in, and understanding of, the Lab's missions and programs	Outstanding	50			
	Obj 6.1 Total	150	5.0	35%	1.8
6.2 Battelle will put technology to work in the Tri-Cities and region. . .					
6.2.1 Number of new technology-based business starts	12	100			
6.2.2 Number of businesses started in the previous year that are sustained through the subsequent year	100%	60			
6.2.3 Number of technology-based jobs created or sustained	50+	40			
	Obj 6.2 Total	200	5.0	40%	2.0
6.3 Battelle will continue/establish partnerships with local and regional organizations to enhance science, mathematics and technology education reform . . .					
6.3.1 The number of partnerships between Battelle/ PNNL and school districts and other academic support organizations . . .	25	100			
6.3.2 The number of student and teacher (K-14) appointees from local and regional partner organizations at PNNL	74	50			
	Obj 6.3 Total	150	5.0	25%	1.2
				Total	5.0

Table 7A – Community Relations Critical Outcome Performance Rating Development

Total Score	5.0 - 4.5	4.4 - 3.5	3.4 - 2.5	2.4 - 1.5	<1.5
Final Rating	Outstanding	Excellent	Good	Marginal	Unsatisfactory

Table 7B - Community Relations Critical Outcome Adjectival Rating

III. SELF-ASSESSMENT REVIEWS

1. Business Management Oversight Process

The review of Battelle's business management functions concluded that overall they are exceeding RL expectations earning an overall rating of **Excellent**. Although the review identified some weaknesses, those weaknesses were more than offset by strengths. The review also concluded that overall the Contractor self-assessments were sufficiently accurate and adequate. Nine functional areas participated in the two-week field review conducted November 2nd through the 13th, 1998. Of those areas Internal Audit and Personal Property Management were found to be substantially exceeding expectations and were rated as Outstanding. Generally exceeding expectations and rated as Excellent were the areas of Printing and Reproduction, Finance, Budget, Human Resources Management, Records Management, and Classification/Declassification. The area of Procurement was rated as Good. See Appendix 1 for the full Business Management Oversight Review Report.

A number of functional areas found that it was not necessary to participate within the two-week field review and provided ratings based on their review of their counterparts self-evaluation reports, operational awareness (daily oversight) activities performed throughout the year, and/or other reviews conducted by RL or other outside agencies (OIG, GAO, etc.) conducted throughout the year. The Library Services, Scientific and Technical Information Administration, Technical Partnerships Administration, Life Cycle Assets Management, and Community Transition all rated their areas as Outstanding. Receiving Excellent ratings were Safeguards and Security, Work-for-Others Administration, Laboratory, Emergency Preparedness, Institutional Business Planning and Communications/Public Affairs. The input provided for each of the above functional areas is provided below.

1.1 Work for Others (WFO) Administration

RL agrees with the Contractor's self-evaluation of their WFO program and provides an overall rating of **Excellent**. The FY98 technical customer surveys indicate that the Laboratory's WFO clients continue to be highly satisfied with their ability to deliver timely and high quality products. WFO clients are also generally satisfied with the Laboratory's ability to transfer technology.

As a result of the Laboratory's FY 1997 self-assessment, RL requested they increase the percentage of WFO proposals submitted prior to the receipt of funding. The deficiency percentage for FY 1998 has been reduced to 24 percent in comparison with 36 percent for FY 1997. While RL recognizes that this Objective is sometimes difficult to manage, the Contractor has recommended further actions to continue to reduce this percentage in future years. Furthermore, the Laboratory was encouraged to improve the completeness and quality of WFO packages during the FY 1997 review process. The deficiency percentage for this objective increased from 10 percent in FY 1997 to 20 percent during FY 1998. However, it has been determined that the FY 1997 tracking log did not accurately reflect the total deficient actions of this Objective. Therefore, the FY 1998 percentage will be used as the baseline for improvement. The findings for this objective are concentrated in two specific areas (incomplete statements of work and subcontract justification). It should be noted that the Contractor has recommended more focused information and training in this area to improve the results of this objective during FY 1999.

1.2 Worker Transition

RL's review of the Laboratory's self-assessment and FY 1998 performance measures revealed the Contractor has a well-developed Institutional Plan in relation to worker transition and is rated as Excellent. First, the Quality of Work Life surveys and follow-up development by International Survey Research, Inc., contracted by the Laboratory, has provided an excellent tool for tracking and improving work place issues. Second,

the Battelle Human Resources Department has increased capability for assessing and promoting workforce career development through Human Resource staff training with the Center for Creative Leadership and third, the fiscal year workforce projection was within five percent of actual.

Regarding Human Resources (HR) Self-Assessment Program RL agrees with Contractor's Independent Oversight Organization's evaluation of HR's self-assessment program. RL has been involved with HR's self-assessment activities throughout the course of the year and has found there program to be comprehensive and effective. The quarterly briefing on self-assessment results was extremely useful and provided a good forum for RL and Contractor partners to discuss progress towards goals and where appropriate, corrective actions being taken.

1.3 Community Transition

Battelle's performance in the area of Community Transition has been Outstanding this year. They have exceeded all their goals on all indicators related to community transition (Critical Outcome Objective 6.2). The efforts of Battelle in this area have been exemplary and have provided significant benefits to the community through innovative technology transfer initiatives.

Regarding the Economic Development Office (EDO) self-assessment program RL agrees with the Contractor's Independent Oversight's evaluation rating of Good. While many good self-assessment practices were incorporated within EDO over the course of Fiscal Year 1997, there was a lack of formal structure in EDO's self-assessment activities. EDO instituted weekly "Case Management" meetings this year to ensure that all staff was continuously evaluating performance against goals. This resulted in several mid-year course corrections that helped EDO exceed all of their targets for their Performance Objectives and Indicators for this fiscal year. EDO has effectively utilized the data coming from their self-assessment activities to drive continuous improvement in their activities – including their self-assessment activities. EDO has recognized that their self-assessment processes while in many respects achieving desired results, does not have the level of formality necessary to fully institutionalize self-assessment as a key tool of the organization. This lack of formal structure is the primary reason that EDO's self-assessment activities did not receive a higher rating from the RL evaluators. It is noteworthy that EDO has taken, and is continuing to take, the necessary actions to develop a more structured approach to self-assessment.

1.4 Public Affairs

Battelle's aggressive and proactive approach to communicating with a variety of stakeholders consistently results in excellent exposure for the Laboratory's accomplishments and contributions to science and technology. Notable activities/accomplishments during the recently completed fiscal year, which led to the Excellent rating provided, include:

- Development and deployment of a new magazine called *Breakthroughs*. This publication is well designed and provides straightforward and positive information about accomplishments at the Laboratory. It serves as a very useful tool for disseminating information.
- Placement of a significant number of articles about achievements and accomplishments at the Laboratory in major national (and some international) publications or broadcasting outlets. This serves to keep the Laboratory in the forefront of the Department's national laboratories in reaching wide and diverse audiences.
- Completion by Battelle Memorial Institute of an independent (and corporately financed) survey of community perceptions of the Laboratory. Results of the survey confirmed that the Laboratory has a strong and positive place within the

community while at the same time pointed out areas where the Laboratory could improve its presence and image.

- Communications liaison support. Selection and matrixing of an experienced and enthusiastic public relations specialist to the AMT organization resulted in timely, and quality advice and counsel to all aspects of AMT communications needs.
- Continued outstanding performance of the DOE Public Reading Room. The DOE Public Reading Room remains an example within the entire Department of how a reading room resource should be managed.

1.5 Technology Partnerships Administration

Battelle has performed outstanding in the area of Technology Partnerships Administration by administering Cooperative Research and Development Agreements (CRADA) according to DOE mission, policy, guidelines and federal statutes. Battelle's success is reflected by positive communications and interface with RL. If any significant issues such as US competitiveness, intellectual property, funding or ES&H have been identified, they readily resolve concerns. Furthermore, the Contractor consistently maintains complete awareness of any changes in policy or procedures regarding CRADAs.

1.6 Scientific and Technical Information Administration

The FY 1998 objectives for the Laboratory's Scientific and Technical Information (STI) program, established in partnership with Battelle STI staff, were focused on their readiness to meet the new electronic requirements of DOE's STI program, achieving customer satisfaction, evaluation of the information release process, and participation in both local and complex-wide STI activities. In meeting these objectives the Laboratory submitted more than 96 percent of its documents to the Office of Scientific and Technical Information in an electronic format. Ninety six percent of customers report they are satisfied or very satisfied with all STI service areas measured. An evaluation of the internal information release process revealed an effective process with certain minor weakness resulting in staff re-training. Furthermore, the Laboratory has been an active participant and often a leader in both local and complex-wide STI issues. Based on the above the Contractor's STI program is rated as Outstanding.

1.7 Library Services

During FY 1998 the Library met all established objectives earning a rating of Outstanding. The Library established its baselines of 23 CD-based products and 20 electronic journals delivering electronic information to its customers, and purchased one electronic service through a DOE Libraries consortium. In addition, the Library actively participates in complex-e STI-related activities, which included consortia purchases of electronic resources. Customer surveys consistently measured customer satisfaction at close to 100 percent.

1.8 Safeguards and Security

In summary, Battelle has performed at an "Excellent" level for FY 1998 in the Safeguards and Security area. Because there are areas for improvement with regards to security infractions, the Contractor's rating would be "Outstanding" otherwise.

The November 1997 RL Safeguards and Security Division (SAS) Periodic Safeguards and Security Survey of PNNL resulted in an overall Satisfactory rating. It was felt that the Contractor provides excellent protection to the DOE classified matter and special nuclear material under it's cognizance. A total of 13 findings resulted from the survey; however, the RL SAS analysis of the non-compliant sub-topical elements determined that they pose no significant vulnerability to DOE interests.

PNNL has an effective self-assessment program that tracts findings and corrective actions in all areas of safeguards and security.

Battelle had an inordinate amount of security infractions involving classified information during the fiscal year. This problem has been elevated to the highest level of Contractor management and a team has been formed to review the current classified information handling process and to recommend corrective actions. RL SAS believes that the Contractor has an outstanding Information Security Program and the mishandling of classified information incidents can be attributed to poor implementation within the various Laboratory program elements.

1.9 Laboratory and Institutional Business Planning

Based upon operational awareness of the Institutional Planning process, RL's evaluation of the in this functional area is Excellent. Integration of the Critical Outcomes into the process is improving and exceeded expectations. Changes implemented in the On-Site review were generally effective and also exceeded expectations. Integration of the Institutional Planning process with other business processes also met current expectations.

1.10Information Management (Y2K)

Based upon daily oversight activities throughout the year RL believes the Laboratory's Y2K program is meeting overall expectations and is rated as Excellent. The Laboratory has four mission-essential computer systems: Facility Operations Systems (F&O), Financial Processing System (FPS), Hanford External Dosimetry Project (HEDP), and Human Resources Information System (HRIS). As recorded in the HQ's Y2K tracking database, HEDP is missing the baseline for renovation. HEDP relies on vendor-supplied embedded computer processors that are non-Y2K compliant. The replacements are on order, but the contractor indicated they would not be available until December 1998. The Laboratory has no option but to await the vendor's delivery. The Contractor believes that they are at no risk of missing either the validation date of 1/31/99 or the 3/31/99 OMB target date for implementation. The remaining three systems are on schedule for validation and implementation.

1.11Emergency Preparedness

Battelle's Emergency Preparedness program is rated as Excellent. Battelle doubled the number of emergency preparedness drills (>20 drills) conducted during FY 1998. The emergency preparedness drills and the annual independent self-assessment are considered to be key self-assessment activities. The activities claimed by the Contractor to be self-assessment activities for emergency preparedness were important and good activities, however improvements are needed to document a comprehensive self-assessment process.

Battelle did not issue a self-assessment plan or specifically define self-assessment for the Laboratory emergency preparedness program and processes, however, at the beginning of FY 1998 several goals were identified which involve activities that are considered to be self-assessment activities. One goal involved an increase in the number of drills. The Contractor accomplished this goal by more than doubling the number of drill conducted in FY 1997. The drills involved self assessment activities including evaluation of building emergency plans, adequacy of personnel knowledge and training, performance of building emergency directors, etc. Some weaknesses were identified and corrected; lessons learned were discussed with participants. Another goal was to conducts an annual Emergency Preparedness Program self-assessment. This was not accomplished in FY 1998 but was conducted in October 1998. Some minor problems and improvements were identified.

Battelle identified several activities in which personnel assessed the emergency preparedness program and processes for compliance, adequacy, and/or improvement. These are summarized below:

- Evaluation of the performance and results of emergency preparedness exercises conducted in Laboratory facilities. This included the evaluation and correction of problems and deficiencies identified during conduct of an exercise. The Contractor conducted one "limited exercise" (Little Goose) during FY-1998. The Little Goose limited exercise was conducted for RL Emergency Preparedness (EP) by FDH-EP as part of Hanford's emergency exercise program. Limited exercises involve activation of the RL Emergency Operations Center, as well as the facility and functional components of Hanford emergency response organization. The Laboratory's EP staff actively participated in preparation and conduct of this exercise to assure objectives to be demonstrated were adequate to validate the readiness of the 325 Building to respond appropriately during an emergency. The Laboratory's EP staff aggressively worked to assure identified weaknesses were satisfactorily resolved.

- The DOE-RL Performance Assessment Division (PAD) conducted an assessment of the Laboratory's Emergency Management Program and found the program to be strong overall with specific strengths in training, emergency program management, facility management, and program documentation.

- The Contractor evaluated the findings identified by the PAD assessment of the Laboratory's Emergency Management Program. This evaluation and the resulting actions to improve the Laboratory's Emergency Preparedness program are considered by Battelle to be self-assessment activities.

- Battelle reviewed the issues (one deficiency and four weaknesses) identified by the PAD assessment of the Laboratory's Emergency Management Program and identified actions to correct the issues.

- Battle conducted a self-assessment of their training program for Building Emergency Wardens and incorporated significant enhancements.

- As a results of these evaluations, the Laboratory Emergency Preparedness Program was determined to be compliant with the new DOE Order 151.1, Comprehensive Emergency Management System.

As a result of the RL-PAD assessment, Battelle identified several areas for improvement: to hazard surveys, in emergency preparedness drills to help personnel recognize and respond to hazards, and in documentation for tracking of deficiencies related to emergency preparedness. However, since the self assessment process as applied to the PNNL Emergency Preparedness program was not well documented, it is not clear what improvements were made during FY 1998 as a result of self-assessment activities.

2. Technical Programs

The DOE-RL STP Division performed a validation assessment of the Contractor's Environmental and Health Sciences Division, Environmental Technology Division, Energy Technology Division, and the National Security Division self-assessments. Based on the division level self-assessments evaluated by STP the overall Contractor performance on self-assessment at the technical program division level is rated as **Excellent.**

2.1 ENVIRONMENTAL AND HEALTH SCIENCES DIVISION – (**Excellent**)

Overview

Evaluation of the EHSD self assessment process for FY 1998 was based on review of EHSD's Self Assessment report, results of the PNNL Independent Oversight Report on the division (June 1998), the Division Review Committee's recommendations for EHSD, the OBES external review of the Chemical Physics Program, the Materials Science Program, and the OBER review of EMSL Operations.

The division's own self-evaluation report, completed October 1998, provides a comprehensive set of observations addressing the three division goals of Science Excellence, Leadership and Management, and Quality Products and Safe Workplace. The assessment offers insights that recognize need for improvement, and offers a set of priorities to focus on for 1999.

Based on the above reviews the DOE-RL FY 1998 evaluation of the Environmental and Health Sciences Division self-assessment process is Excellent recognizing the need for some maturing.

Strengths

The DRC report generally found the programs in EHSD to be excellent to outstanding with the Global Change program demonstrated great leadership in the national program.
The OBES review of the Chemical Physics and Separations Analysis Programs, held March 1998, gathered high praise overall for quality of people and facilities. The identification of the need for additional support for some research resulted in raising the issue to HQ for additional funding; a portion of which was addressed. The OBES review of the Material Sciences Program also had high praise for research activity relevance and quality. Most of this research has potential commercial value.

The OBER review of EMSL recognized strong facility operations management. The Contractor's execution of proposal review process on EMSP and NABIR program proposal represented outstanding success.

The IO report indicated that EHSD's self-assessment process has improved over last year. Improvements resulting from more senior managers taking a participatory role, utilization of external experts for review of direction of fundamental research program direction, and the positive relationship with RL/STP are cited.

Recommendations for Improvement

The DRC report recommended Advanced Materials should consider expanding in basic materials. Since subsurface science is on the path to attracting the NABIR Field Research Center, EMSL is still a potential, with need for marketing that is to be addressed by the new director. The Global Change program did not have expertise to evaluate the Global Change computational science program. This was addressed by the addition of a global climate change expert for next year's review.

The OBER review of EMSL recommendations include the desire to have the EMSL directly connected to activities addressing some of the key unresolved problems at the Hanford site. The IO recommended that EHSD's self-assessment process could be improved with the addition of discussion of how results are used.

Both the IO evaluation and the division SA recognize the need to improve the SA program familiarity down to the TRM and TGM levels. Recommend that a consistent understanding and effective use of EHSD's self-assessment program at the lowest levels of the division be a high priority for management. Also, that executive level performance measures be adopted.

2.2 ENVIRONMENTAL TECHNOLOGIES DIVISION – (OUTSTANDING)

Overview

STP formed a validation assessment of the self-assessment performed by the Contractor Environmental Technologies Division (ETD). The validation assessment was conducted from November 2-13, 1998, and included a review of the ETD product lines through interviews with product line managers, department managers, and other appropriate Laboratory personnel. The following product lines were reviewed:

- Process Technology Development and Application
- Environmental Remediation Systems
- Environmental Technology Assessment And Integration
- Nuclear Safety and Technology Applications
- Resource and Ecosystems Management
- Environmental, Safety and Health Systems

The team also reviewed other documents such as the ETD 1998 Self-Assessment Plan, Independent Oversight Report on the Evaluation of ETD Self-assessment program, FY 1998 Self-Evaluation Report for ETD, Battelle FY 1998 Annual Self-Evaluation Report, and other applicable documentation and presentations.

The focus of this evaluation was on the self-assessment process and not necessarily on the results that ETD product lines had on their specific performance indicators.

Summary

Generally the FY 1997 self-assessment process has improved over the FY 1996 self-assessment process. It is apparent that ETD is using the process and not just complying with it. It is being used as a tool to improve the operations of the Laboratory and ETD seems to be continually trying to improve the process. The rating for the Environmental Technologies self-assessment is Outstanding.

Business Results

Many of the product lines have the same performance indicators and it was seen that these are not necessarily applicable to all product lines. ETD has recognized this issue and the product lines managers (PLMs) are working at identifying specific indicators for their product lines. It was seen through interviews that PLMs are not just changing the standard performance indicators but they are adding performance indicators that would be more applicable to their activities.

Strengths:

- A few product lines set up teams to address cost overruns and invoices, and project tracking.
- There was an increase in the list of critical projects that were tracked, and a few product lines experimented with random selection of critical projects, which contributes to more accuracy and validity of statistical data.
- Product lines will still be tracking activities (demonstrations) in FY 1999 that are no longer required as a Critical Outcome.

Areas for Improvement:

- Continue to work on credible performance indicators for the specific product lines.
- Continue to randomly select critical projects for tracking purposes.

Customer Value

ETD is using the data that is generated from the Customer Surveys and is working to come up with recommendations for improving the survey and timeliness of responses from customers. At the time of this evaluation the PLMs had not yet received any official input

from the customer surveys; however, some PLMs had some informal input from their customers and were acting on it as appropriate.

Strengths:
- The product lines that had a random critical project selection benefited from having customer feedback from those projects.
- ETD views customer satisfaction and feedback as critical to their mission as can be seen by a greater emphasis on relationship management.

Areas for Improvement:
- Timeliness of the data to the PLMs seems to be an issue.
- Continue to randomly select projects to ensure greater validity of statistical data.

Business Processes
The emphasis of this evaluation in FY 1998 was to examine the relationships between ETD and other Contractor organizations/Divisions. Specific organization/systems that were examined included:

- ES&H including Prep and Risk System
- Program Management Systems (PMSG)
- Contracts
- Finance
- Intellectual Property

In general there was a positive response to the services that were provided and all of these organizations were open to feedback from ETD. In many cases teams were created to work on specific issues such as Intellectual Property or contracts to get/keep things under control.

Strengths:
- Teaming with support organizations to accomplish a goal and working to eliminate organizational barriers.
- ETD is providing constructive criticism to improve on systems such as Prep and Risk to make them more useable.

Areas for Improvement:
- There should be more teaming relationships in product lines that are not yet utilizing this approach.

Compliance
In general the working relationships with the ES&H support organization and systems was good. The Prep and Risk systems is being used and appreciated by all involved. Over the year(s) a project can be changed slightly based on research results that could result in "scope creep. "There are some issues with "scope creep" in some projects and the need for a re-review by ES&H of some of these projects when the scope change involves ES&H issues and concerns. These types of scope changes need to result in revised Prep and Risk forms.

Strength:
- ETD has learned from some compliance issues that occurred during FY 1998. There seems to be a heightened awareness of these issues and concerns.

Area for Improvement:
- A better tracking of "scope creep" and ES&H reviews needs to be considered.

Resource Management
Most managers use the "best available talent" to manage their resources rather than pulling individuals off of projects.

The use of teams has been increased in many of the product lines and the results of these relationships has shown an improvement in the overall effectiveness of the ETD organization

Leadership
The self-assessment process is viewed by all ETD staff as a management tool rather than a requirement. The process keeps improving from year to year and it is obvious that there is a push from all levels of management to make this process a success. There is increased emphasis on relationship management and the customer service model by which can be seen at all levels of management.

2.3 ENERGY TECHNOLOGY DIVISION – **(OUTSTANDING)**

The Division has based their self-assessment structure on a balanced scorecard approach (see "Balanced Scorecard" by R.S. Kaplan and D.P. Norton). This approach covers all aspects of a quality institution although from a different angle as that in the Contractor's Integrated Assessment Program (IAP) Framework Criteria. The Division will be involved in re-organization retreats in the first quarter of FY 1999 and it is anticipated that measures will be revised to align more suitably with their new business thrust areas.

Energy Technology Division Self-Assessment Program Plan, Rev. 2.5
The following observations supplement those in chapter 3.0 of the Independent Oversight department report, "IO-98-13, Evaluation of the Energy Technology Division Self-Assessment Program" (with which we agree).

Strength:
- Interactions between the RL point of contact and the Energy Division have demonstrated an enthusiasm and viability for quality and for the self-assessment process.

Areas for Improvement:
- The role of what is now called the Division Visiting Committee (DVC) and how they fit into the overall self-assessment process should be clarified in the plan.
- All review reports should address the dispositions of all recommendations from the prior year's report.
- No individual is assigned to coordinate and track activities associated with the DVC, including taking action on recommendations and tracking them to closure. (It is noted that this has been corrected in the FY 1999 Self-Assessment Plan, Rev. 3.0).

Independent Oversight
The Energy Division has been steadily improving their self assessment program over the last several years and this year received high marks from the Internal Oversight Department in their report, "IO-98-13, Evaluation of the Energy Technology Division Self-Assessment Program". This review methodically addressed the five criteria: 1) Planning Assessment Activities, 2) Execution of Planned Assessment Activities, 3) Level of Senior Management Involvement in the Assessment Program, 4) Documenting and Reporting Assessments, and 5) Evaluating and Implementing Improvements. A number of specific recommendations for improvement were made in this report that should be given management consideration, tracked by the Division, with status reported in next year's Division annual self-assessment report.

Energy Division Self-Evaluation Report
The Division prepared a 19-page report. Attention was given to the FY 1997 Internal Oversight Report recommendations (IO-97-10), four of which were tracked for improvement throughout the year. The other recommendations may yet be incorporated in the course of adjustment of the Division measures.

Strength:

- Good Laboratory-wide process improvements were suggested for identification of active projects, identification of project managers, and project management training.

Areas for Improvement:

- Most of the customer satisfaction components of the self-evaluation were dependent on the uncompleted Laboratory Customer Feedback Survey so customer satisfaction level is indeterminate at this time. This survey should be compiled earlier in the year so as to enable timely incorporation into Division reports. - This same comment was made in last year's report and was raised the last two years as a Laboratory issue by Division personnel.
- The suggested Division improvement to integrate Peer Review, Customer Feedback, Critical Outcome, and Self-assessment efforts is an interesting idea – please keep RL informed as this takes shape. We suggest a simple tabular format for tracking such information efficiently including columns for the recommendation, plan for disposition, and status.

Division Review Committee Report

The Energy Technology Division Review Committee (to be called Division Visiting Committee next year) conducted a review November 1997 with their report issued in March 1998. Committee members were prominent academicians and industry experts. Much insightful information was presented (some already mentioned) that will continue to be useful for study by Division management.

Strength:

- The general praise for the quality of programs presented at this review.

Areas for Improvement:

- The "Charter for Division Visiting Committees" could be improved to: 1) ensure meaningful feedback on "Relevance to Lab Mission", and 2) identify recommendations in a separate chapter.
- Two programs were cited as not paying sufficient attention to industry standards
- One project gave reviewers the impression that inadequate literature search had been performed. If these are not reviewer mis-impressions more attention may be warranted.

Other Notable Observation

The process of determining "business thrust areas" that the new ALD has chosen as the centerpiece of his organization has an attractive angle from the Department's perspective in that it forces the Lab to examine competitor laboratories' "market share". This approach in conjunction with the Customer Service Model should help provide the Division with stable niche markets while providing the Department with some control against replicated programs in multiple Laboratories.

2.4 NATIONAL SECURITY DIVISION – (EXCELLENT)

This was the second year for NSD's self-assessment program. Respecting the current state of the program and the positive trend, the evaluation of the FY 1998 self-assessment process for FY 1998 would be excellent with room (and expectation) for improvement in FY 1999.

Strengths:

- The organizational acceptance and participation in the program is a strong indicator of a healthy, emerging program. This is also evidenced by the willingness and responsiveness for DOE participation.
- The alignment of aspects of the self-assessment with business goals is a positive aspect, enhancing the responsiveness of the organization in recognizing and capitalizing on opportunities for contribution and growth in strategic areas.

Areas for Improvement:

- Formalization of the process could be improved with a more substantial structure tailored to the organizational goals. Such a structure would help identify specific performance goals and should incorporate a more rigorous process for evaluating the lessons learned in FY 1998 to improve processes for FY 1999 (using self-assessment to drive self-improvement).
- The importance of initiating a strategic planning process cannot be underemphasized, and should be a priority goal for FY 1999.

3. ES&H/Operations

Process and Objectives

The objectives of this review were to determine the maturity of the Contractor self-assessment process at the Laboratory (within ES&H/Operations); to validate that the process meets the purpose of DOE Policy 450.5 (self-assessment is cornerstone to DOE line oversight); and, that alignment with the management systems of the Laboratory has been achieved. Individual assignments within the team were made based on management systems within the organizational structures. Based on the individual responses provided below and the fieldwork represented by these responses, an analysis was performed by the review team to identify any overarching trends/issues or conditions. The team identified several strengths as well as concerns and found it most convenient to present the general conclusions in terms of approach, deployment and "use of results". The following general distinctions were made for consistency and are presented here as an aid to understand the conclusions.

Approach: creation of a self-assessment strategy and process with tools delivered and in use

Deployment: demonstrated use of tools

Use of Results: Results are demonstrated to have promoted growth within the system

Another useful distinction used in the analysis was the difference between the process of self-assessment and the self-assessment program as practiced within organizations and management systems. Since the review was to focus on the self-assessment process, lesser weight was assigned to program self-assessment.

Analysis and Conclusion

The process of self-assessment was given greater weight due to the objectives of the review. The RL Science and Technology Operations Division (STO) conducted a yearlong process to evaluate the process of self-assessment. This review focused on the system described by Critical Outcome 4.1. Although observations were made based on other work including participation in external reviews, the Critical Outcome 4.1 effort was by far the most systematic. From this effort and based on management system criteria, the self-assessment process is not effectively deployed throughout the Laboratory at this time. Additionally, the Standards Based Management System (SBMS) tools did not directly describe a feedback methodology that would provide information on the deployment (especially execution) of this system to the management system owner.

The overall impression was that for individual management systems or organizations the process appeared to be well maintained and robust with self-assessment results being used to improve system performance (exceptions to this are noted in the individual responses below). Approach scored higher for all systems observed than did deployment. There were cases observed where the team considered that deployment has not occurred or requires substantial improvement. A surprise from the analysis is that in many cases the "use of results" tends to be more robust than deployment. The analysis viewed this anomaly, as potentially an issue of personal capability and expertise substituting for the

structural integrity required by the management approach and SBMS. Approach and Use of Results is considered as **Excellent** and deployment as **Good.**

Alignment of the self-assessment process with management systems requires improvement. The expectation is that the Contractor's management approach and operations will be in accordance with the customer service model. The self-assessment plans and review have been built along organizational lines and do not fully tie together the components of the customer service model (Roles, Responsibilities, Authorities, & Accountability; management systems; subject areas). The team concluded that this contributed to issues noted in individual programs. Most significantly, a trend was noted for line management to not fully support (or system managers to enforce) the processes and expectations of supporting management systems. The management system concept should cut across organizational boundaries. With some exception, this does not seem to be occurring. The self-assessment process is considerably weakened as a result.

3.1 Management Systems

Self-Assessment

The self-assessment activities that are part of Battelle's Integrated Assessment Program throughout FY 1998 were systematically examined. This examination included observing self-assessment activities conducted by six Contractor divisions/directorates. These observations revealed that based on criteria defined in the Integrated Assessment, ES&H, and Integrated Planning Management Systems, the self-assessment process has not been effectively deployed throughout the Laboratory at this time. The full deployment of the self-assessment process was an Operations Improvement Program (OIP) Milestone in FY 1997 and is an expectation of DOE based on Integrated Safety Management System (ISMS) validation. A summary of specific items of concern may be found in the joint Independent Oversight/STO special study report "DOE-RL/ Battelle, Pacific Northwest National Laboratory, Joint Independent Oversight Report, IO-99-01, Special Study of FY1998 Performance Indicators 4.1.1 and 4.1.6."

The concern that self-assessment is not fully deployed is also supported by the following general items. First, the approach defined in the "Integrated Assessment – A Performance Measurement System" subject area in the Standards Based Management System did not directly describe a feedback methodology that would provide information on the deployment of this system to the management system owner. Field observations also did not identify any type of feedback system in place that would provide objective information to the management system owner on the actual deployment, especially execution of the self-assessment tool within the Laboratory. This raises a concern with respect to the ability of Integrated Assessment to accomplish the stated objectives in Section "1.0 Purpose." Second, the subject area describes the relationship of the Laboratory Integrated Assessment system to other systems, however the formal linkages are not defined in many cases. The description in SBMS does not identify the specific linkages to Integrated Planning, DOE-RL Performance Evaluation, External Oversight, or DOE-HQ Oversight beyond that shown in Figure 2. These linkages should be important components for providing DOE and Battelle with feedback on overall Laboratory performance and direct system feedback on self-assessment. RL did not observe any evidence that would indicate these linkages are defined or operating effectively within the self-assessment process as executed in the Laboratory. Finally, in Section 9.0 there is a statement that describes an expectation of management responsibilities related to actually conducting self-assessments. The DOE expectation is that managers will be involved in the actual conduct of self-assessments consistent with what is described in DOE Order 5700.6C for assessments. Senior management is clearly defined in the order as opposed to management in general. RL did not observe a sufficient management presence; much less involvement in the self-assessment process to insure that ES&H and other

operational criteria are truly understood and addressed in work processes throughout the Laboratory.

3.2 Integrated (ES&H) Safety Management

Battelle's Pacific Northwest Division has made progress towards developing an effective ES&H self-assessment capability within the Pacific Northwest National Laboratory. This is based on observations conducted by RL throughout FY1998 and by those from the Laboratory Independent Oversight organization. The integration of Performance Indicators 4.1.1 and 4.1.6 into the Contractor's framework of self-assessment constitutes a critical first step. The assessment process used this year represents the beginning stages of a systematic approach and deployment for evaluating the effectiveness of Contractor's integration of ES&H into work place activities. Several areas for improvement were noted in both approach and deployment. To ensure that this initiative becomes institutionalized, the Integrated ES&H Management System owner needs to continue an appropriate level of oversight, providing definitive guidance and performance expectations. Training and qualification of evaluators needs to be enhanced, as well as, involving line management in the actual evaluation process. Serious consideration should be given to making individual project evaluations more in-depth and comprehensive. This may require a trade off of performing more robust assessment of fewer projects. The less than comprehensive approach to evaluating individual projects (limited to tabletop discussion) yielded results of marginal validity in establishing a true performance baseline. However, the validation of this approach provided valuable insight related to preparing future performance indicators.

3.3 Quality Management

A validation of Objective #6 from Quality Directorate FY 1998 Self-Assessment was conducted on November 12, 1998. The results indicate that the quality requirements are established and being deployed in the operations through the Lab's management systems. However, QA personal have not validated the implementation of the three Standards as outlined in the Quality Management System. QA staff believes that it is line management responsible for assuring that all Contractor staff meets the three objectives: (All staff shall document calculations, analyses, tests and software required to substantiate results and processes used to develop products/solutions. All staff shall use equipment of known accuracy for process monitoring and data collection. All staff shall identify and control items and material affecting scientific results).

This is an area that needs to be looked into from the perspective of the Point of Contact and the ownership of the QA management system. Even if line management is responsible, then QA staff needs to observe the process and review the Self-Assessments conducted by the different line management organizations to help with the execution of this management system.

In the technical area, it was indicated that the Contractor uses the Peer Approach for validating the technical results. However, QA staff has not participated in the Peer review process. It was recommended that QA staff observe this process.

3.4 Radiological Control

The radiological control (Radcon) FY 1998 self-assessment is well aligned with their management system. Radcon Program is at the end of its first three-year cycle to evaluate their compliance with requirements outlined in the Hanford Radcon manual and other requirements. There was a program plan, a schedule and a very structured approach for conducting the assessments, reporting the results and tracking the corrective actions. The program is very mature in evaluation of the management system. The focus for the next three-year cycle will be more on the

"implementability" and execution of the requirements. An area needing to mature is the interface between the management system and the line organization.

There are two procedures for self-assessment easily accessible on the Web: 1.3.02 internal procedure and 1.3.04 for line program use. There does not appear to be a consistent use of that information by the line organization in conducting their self-assessment. There may be a cultural bias as well that impedes full acceptance of self-assessment in the ES&H area. By its nature, issues that are found during the self-assessment process in the ES&H area can result in non-compliances, which may be reportable in some instances. The cultural view that reportable events are bad seems to conflict with the idea that finding issues through self-assessment is still better then being found by an outside party.

On a positive note line organizations have budgeted more for Radcon support for self-assessment in FY 1999. There needs to be a focus on integrating that into the start of the project rather than assessing after the fact.

3.5 Environmental Management

The Integrated Assessment Program developed in FY 1998 by the Environmental Management Services Department (EMSD) consisted of four major areas: Leadership Commitment and Involvement; Customer Focus and Satisfaction; Process Management; and Business and Operational Results. Reporting the results from this assessment program appeared to be somewhat inconsistent. A summary review of the EMSD Self-Assessment Program was prepared for the 1st quarter, however information for subsequent quarters was provided via monthly reports and/or Laboratory Facility Operations Self-Assessment Guidance Cards.

The Leadership Commitment and Involvement section of the integrated assessment program appeared to be integrated fairly well across the department, as all EMSD staff were surveyed with respect to trust, integration, and role, responsibilities, authorities and accountability. The remaining sections in the assessment program, however, did not appear to be integrated across the department, but rather appeared to be primarily driven by the task group managers.

Self-assessments were conducted and improvements were made within the EMSD over the course of FY 1998. These assessments and improvements, however, were not necessarily identified in the integrated assessment program developed at the beginning of the year.

The FY 1998 EMSD integrated assessment program lacked the level of rigor and formality necessary to effectively monitor progress, analyze results, and implement positive change. An increased level of formality should be an area of focus in the development of the FY 1999 EMSD integrated assessment program.

3.6 Facility Safety

A self-assessment plan was developed for FY 1998. The plan included a schedule, which was followed; additionally other self-assessments were conducted. There was a very structured approach for conducting the assessments, reporting the results and tracking the corrective actions. The program is mature in evaluation of the management system. Lessons learned and use of results to effect change are expected to occur with follow on self-assessments scheduled for FY 1999.

3.7 Worker Safety and Health

The FY 1998 Integrated Safety and Health Self-Assessment Plan was fully executed, and the results of the self-assessments were used to effect positive change. For

example, the results of the electrical safety self-assessment report were used to give visibility and to request funding in FY 1999 for an electrical safety engineer. One of the performance indicators for FY 1998 was established to address the accuracy of the Chemical Management System. Results of the self-assessment indicate greater than 80% accuracy. Results also indicate there is room for improvement; therefore, a follow on indicator was established for FY 1999.

3.8 Life Cycle Asset Management (LCAM)

For Fiscal Year 1998, the Pacific Northwest National Laboratory has received an Outstanding adjective rating in the area of Life Cycle Asset Management.

Deployment
The self-assessment program focused on the critical areas to improve the process established with the LCAM system. This assessment was directed at completing the critical and high priority work within budget. It also focused on the cycle time for reviewing service requests and responding to customers in a timely manner. Other focus areas were benchmarking to compare Pacific Northwest National Laboratory with other companies. This effort helped in reducing the operating budget by $3M. Other benchmarking efforts produced "soft" savings by initiating process changes within the management system.

The assessment followed the agreed upon process of implementing improvements, defining responsibilities, performing and documenting assessments, and reporting on a quarterly basis. The assessments were all completed in the assigned quarter. The assessments did spur additional questions that will be followed up in FY 1999. Benchmark with others will continue in the self-assessment plan. Additional self-assessment will be to continue with the efforts initiated in the FY 1998 Operational Improvement Initiative (OII). The assessments tied directly into the critical outcomes 4.3.1, 4.3.2, and 4.3.3.

Use of Results
The assessment areas were used to develop the FY 1999 critical outcomes. The majority of the critical outcomes have come directly from the previous year's self-assessment. This year's assessment focused on use of the Laboratory assets. FY 1999 critical outcome 2.2.1 measures the utilization of space; critical outcome 2.2.2 measures the usage of the equipment within these facilities. The last focus area in the critical outcomes is a direct connection to the Standard Based Management System. These critical outcomes will measure the integration with other site contractors to maintain a connection to site support services in the 300 Area.

There was a direct connection from assessments to the development of the Operational Improvement Initiative (OII). The OII included benchmark data from other industry sources. This internal assessment of the process could lead to an operating cost reduction. Other benchmarking areas that have shown a tremendous impact is the development of the 3-day work process.

Key business areas were the increasing cost associated with maintaining facilities and completing work in a timely and cost effective manner. The assessment and critical outcomes has assisted in focusing in these areas, thus, the development of the benchmarking efforts and development and implementation of OII reducing the operating cost by $3M.

The majority of the assessment areas were indicators that could be monitored. The self-assessment program was a focused area with emphasis not so much on meeting the data, but more on what did the assessment indicate. This information was then analyzed to identify what carry on self–assessment or performance indicator could assist in improving processes, reducing work, or reducing costs.

A good example of use of results to drive improvement and corrective actions at the Laboratory and lower levels is the critical outcomes associated with the development and deployment of a more comprehensive analysis of Life Cycle Asset Management. This effort enhances the management system by looking closely at the details.

3.9 Training

Based upon our review of the T & Q Management System and their self-assessment, we believe the T & Q department is providing excellent tools and services to meet the Laboratory's training needs. They have a generally effective self-assessment program, with only a few areas where improvement may be needed. There appears to be a lack of utilization of these tools among many line managers, as indicated by a large number of employees with delinquent required training. Specifically:

Review of the delinquent training report for September 30, 1998 indicated a substantial amount of required training had not been taken. This included 130 managers who were delinquent in Substance Abuse Awareness which is required by 10CFR 707.6. Discussion with the Training Manager revealed the training had been provided in about 4 sessions allowing flexibility in scheduling and attending. Although some of the required training may be provided on a "just in time" basis, the significant volume of delinquent required training was determined to indicate a self-assessment program weakness as it had not been identified or addressed as part of the self-assessment.

Instructor qualification is currently at 98%. The self-assessment found that the system for identifying individuals with instructor duties, and ensuring they have the requisite qualifications is working well. Our review confirmed these results.

Training records are part of the Peoplesoft system. Original training rosters are retained in hard copy in locked file cabinets until they are shipped to permanent storage (75 years) at an off-site location. The computerized training records system is accessible to managers as well as employees. The Contractor has a computerized system, which builds training requirements based on work assignments; the manager is lead through a series of questions regarding work and associated hazards. The system was judged to be "user friendly" and state of the art.

The self-assessment found that evaluations of continuing radcon training were effective in feeding back needed information to line management. Our review confirmed these results.

Off normal occurrences were not a part of the self-assessment process for this fiscal year, so were not reviewed. This area is included in the self-assessment plan for the current fiscal year. A review of the self-assessment on use of lessons learned found it useful. Our review confirmed these results.

Four Kirkpatrick Level III assessments were originally scheduled to be completed during FY 1998. Two were completed and appeared to be adequate. One was deferred to FY 1999. One was completed with only one observation or data point. The self-assessment did not question the validity of basing a level III on only one data point.

Review of the Battelle Self-Assessment on Training Policy and Procedures For Subcontractor/Third Party Work for Pacific Northwest National Laboratory, found there to be adequate contractual language to pass down training requirements to

subcontractor and third parties working at the Laboratory. The self-assessment made five recommendations, which when implemented, should provide pass down of training and qualification requirements.

Strengths:

- The T & Q Management System provides the Laboratory with excellent tools and services to meet their training needs. The self-assessment validated many of these tools and services.

- Self-assessment program is an aggressive and thorough in many areas. It successfully identified several areas for improvement and has been used to improve the overall value that the T & Q department provides to the Laboratory.

- The T & Q department's management of instructor qualifications is effective at ensuring all instructors are appropriately qualified prior to conducting training.

Weaknesses:

- Use of T & Q tools and services by many line managers is lacking, as demonstrated by the significant number of personnel who were listed as delinquent in required training.

- The T & Q department's self-assessment did not adequately evaluate the degree to which its programs were being utilized by line management. The issue of delinquencies was not noted until discovered during the BMOP review by DOE personnel.

- The T & Q department's self-assessment of Level III evaluations did not identify one evaluation as questionable based on the limited data used to make the evaluation.

Recommendations:

- Two recommendations are appropriate for the issue of delinquent training :

  - Completing required training that has been identified as delinquent should be a priority for the Contractor.

  - The lack of use of the T & Q Management System by line managers needs to be addressed at the appropriate level.

- Battelle's self-assessment process should include an evaluation of how well line management is using its programs to achieve a trained and qualified workforce.

  Battelle should continue to use Level III Kirkpatrick evaluations to assess effectiveness of training programs. Evaluations should be based on enough data points to assure the results are valid.

3.10 Facility Operations

Strengths:

- Benchmarking - self-assessments of business practices at the Laboratory.

  The Contractor Facilities and Operations (F&O) have implemented outstanding practices for self-assessment of business practices. Through benchmarking with world class companies, the Contractor has implemented significant improvements that are benefiting the research customer and DOE.

F&O are in the second year of benchmarking with Facility Issues, a benchmarking coordinator. The benchmarking group contains many world class companies involved in high tech operations. This benchmarking involves cost, satisfaction and process data related to facilities operations. Facilities and Operations have incorporated the benchmarking process into the standard way of doing business. For example:

- The process for "Three Day Work" is based on benchmarking observations at MK- Tectronix
- A $3 Million budget reduction from FY 1998 to FY 1999 was based on benchmarking
- Benchmarking metrics are included in the building managers Annual Work Plans.
- Analysis of customer satisfaction surveys lead to the Electronic Service Request, the cycle time reduction team and a team to improve temperature control.
- On line measurement of cycle time and customer satisfaction were a result of in-plant benchmarking visits.
  - Facilities and Operations have implemented benchmarking goals for cost improvements, satisfaction, enhancements and industry recognition of the Laboratory best practices. Goals are being met and exceeded in all of these areas.

- Facility and Operations organizational changes through self assessment
  - F&O reorganized to implement a customer service model. The key elements of the customer service model are as follows:
    - Reorganized to form a single operations manager for facility operations. The key improvement is improved consistency in operations at the Laboratory facilities.
      - F&O fully implemented the core maintenance team concept. This concepts establishes core maintenance teams lead by the building manager and consisting of a craft supervisor, a planner, craft personnel from a variety of disciplines, and an ES&H safety representative. This concept has resulted in a variety of improvements in conducting Laboratory maintenance including better teamwork, participation, and communications. It also facilitates implementation of Integrated Safety Management at the Laboratory.

- F&O implemented several new features and improvements to the Laboratory work control processes.
  - F&O implemented a new service request system that improves the efficiency of initiated and conducting work. This system features electronic delivery of work requests including maintenance and engineering.
  - F&O instituted a risk based three-day work criteria, which allows low hazard work to be performed in a safe and efficient fashion.

- F&O played a key role in implementing Integrated Safety Management via the new service request system, Integrated Operations, Job Planning Packages, and the facility review board. The Integrated Operations program was developed during Fiscal Year 1998 for implementation at the Radiochemical Processing Facility (325 facility) and at the Life Sciences Laboratory (331 Facility). The program consists of procedures and processes for identifying hazards, integrating safety into the work, and controlling both research and maintenance work in accordance with good conduct of operations and research practices.

- As a results of improvements made through self assessment, benchmarking and reorganization, F&O was able to reduce the Fiscal Year 1999 F&O operating budget for buildings and utilities by three million dollars resulting in reduced FY1999 operating costs.

Weaknesses:

- Procedure adherence continued to be a problem at Laboratory facilities during Fiscal Year 1998 as reflected by recent occurrences where personnel and managers failed to follow procedures. (See Occurrence Report PNNLBOPEM-1998-0013, PNNLNUCL-1998-0005, PNNLBOPEM-1998-0005, and PNNLBOPER-1998-0010)

3.11 Maintenance

The Contractor Maintenance Services self-assessments were focused in three primary areas:

- Working with the Operations Improvement Initiative to understand and resolve performance issues in the 4.3 Critical Outcome objectives.

- Assurance of hazard identification and mitigation in support of the 4.1 Critical Outcome.

- Miscellaneous reviews of calibration work, radiological work, lock and tag, and like items.

Through the Operations Improvement Initiative a "3-day" work criteria was established which has great promise to resolve issues surrounding identification of work that does not require formal planning and improving work cycle time. The reviews of maintenance work for hazard identification and mitigation had positive effects by having people from many job positions involved in the reviews. The self-assessment activities resulted in identifying the following improvements:

- Improvements in formal planning (3-day), supervisor access to staff training database.
- Improvements in incorporating technical work documents into the job plan.
- Definition of when a supervisor is to be at a job site.
- Definition of when to include a technical work document as a procedure.
- Improvements in equipment calibrations.
- Improvement in the use of procedures in-the-field.

Standards Based Management

The SBMS self-assessment process was viewed as being well planned and executed. The mix of review functions included customer feedback and performance indicator tracking. The performance indicators covered the various aspects of the SBMS process well. Interaction with DOE was strong with program reviews being held on a quarterly basis.

It was noted during the year that the conversion of "A Manuals" to subject areas was occurring at a rate that would not meet the CY99 goals. Battelle and DOE negotiated to place a performance indicator in the formal Performance Measurement Plan to emphasize this issue in FY 1999.

IV. OTHER NOTABLE OBSERVATIONS

DOE Headquarters Offices Evaluations

1. Office of Science (OS) (Formally the Office of Energy Research)

For fiscal year 1998, the Contractor's overall performance on OS science and technology programs is rated as **Outstanding**. This summary rating combines overall performance evaluations for program areas supported by the OS offices of Basic Energy Sciences, Biological and Environmental Research, Computational and Technology Research, and Fusion Energy Science. Although the overall rating is Outstanding, there are several concerns mentioned by the Office of Basic Energy Sciences. One addresses the Contractor's complex management structure; another questions whether the Contractor's Customer Feedback Survey is appropriate for the appraisal of fundamental scientific endeavors. These concerns may provide the basis for a useful discussion about the appropriate measures for basic research as compared to more applied and time-driven research. Finally, there is concern over the length of time for implementation of Cooperative Research and Development Agreements (CRADA's). See Appendix 2 for the response provided by the Office of Science.

2. Office of Declassification

During FY 1998 the Contractor provided **Outstanding** support to the Office of Declassification as it further implemented the DOE Openness Initiative. The Hanford Declassification Project reviewed more than 4,200 documents (over 171,000 pages) for declassification during FY 1998. As a result of this effort, a large amount of previously unavailable documents are being provided to the public. This project is exceeding all expectations, with exceptional quality, and accomplished within budget. The Contractor also supported the Hanford Openness Workshops with briefings on new technology being brought to bear on the problems associated with declassification reviews.

The Laboratory also provided support to the Technical Guidance Division, which was described as Good. During the process of revising the Classification Guide on Nuclear Material Production, CG-NMO-1, in August 1998, technical expertise was provided by the Laboratory. See Appendix 3 for the response provided by the Office of Declassification.

3. Office of Advanced Automotive Technologies

The Office of Advanced Automotive Technologies rated the Contractor's FY 1998 involvement in the Northwest Alliance for Transportation Technologies (NATT) program as **Outstanding**. They cited staff for their efforts leading to the filling out of NATT's initial portfolio of projects under the Lightweight Vehicle Materials effort. See Appendix 4 for the response provided by the Office of Advanced Automotive Technologies.

DOE Richland Operations Office

1. Electronic Prep and Risk System

The Laboratory is commended for the development of the Electronic Prep and Risk system and for providing RL staff with read access to it. The 61-element checklist shows the depth of this process and gives DOE good confidence that risk factors in many dimensions have

been assessed carefully by management prior to proposal issuance. Each checklist element has apparently been scrubbed by subject matter experts and forces the prospective project manager to think carefully about key risk and safety-significant issues. Consideration may be given to incorporating programmatic preparation elements into the Prep and Risk checklist. For example: Has a literature review been performed?, Are other National Labs involved with similar work?, Have project participants published on the subject? Also, verification of coverage of the IAP Framework Criteria amongst all division level self-assessment plans is recommended.

2. Calibration Services

In response to the existing problems with the calibration services provided by DynCorp, the Contractor took appropriate corrective actions to mitigate the problem by selecting a new supplier. The Laboratory has now control of the calibration process. This change has provided many benefits to the Laboratory (i.e. cost per balance is below what was being charged), the quality is better, and the interface with new supplier is excellent. The Contractor gets full credit for having taken the initiative to change existing conditions that were not the best.

3. Integrated Safety Management

The laboratory has made substantial progress in the development and implementation of those systems that support a comprehensive and effective Integrated Safety Management approach to business. This progress is in part reflected in the results of the Critical Outcomes, ISMS Verification and the EH-22 Safety Management Evaluation follow-up. Further and to the credit of the system, the deficiencies in implementation are recognized and actions have been, or are being taken to achieve these improvements. These actions and laboratory wide support for them should result in the mutual goal of continued improvement.

4. Groundwater /Vadose Zone Project

Battelle manages the groundwater monitoring project for DOE-RL. In FY 1998 this is a $12,000,000 effort. PNNL performed at the outstanding level. The baseline project was executed within cost, scope and schedule. Of particular note is the excellent work associated with tank farm RCRA assessments and support to TWRS TPA negotiations. Project control has improved over the past year. PNNL also heavily supports BHI in the Groundwater /Vadose Zone Project, leading the efforts associated with the development of a science & technology roadmap. PNNL was successful in managing a cooperative effort by the national laboratory complex in developing the science and technology needs. PNNL also was instrumental in assisting BHI and cooperating with the PHMC in the development of the project specification and the long-range plan for the project. Again, these efforts are deemed outstanding for this period.

United States Government | Department of Energy

memorandum

Richland Operations Office

DATE: DEC 10 1998

REPLY TO ATTN OF: CFR:TEC/99-CFR-003

SUBJECT: BUSINESS MANAGEMENT OVERSIGHT REVIEW REPORT FOR BATTELLE PACIFIC NORTHWEST NATIONAL LABORATORY (PNNL)

TO: Robert Rosselli, AMT

Attached is the report on the Business Management Oversight Review of PNNL for FY 1998. This review was conducted onsite during the period November 2-16, 1998, by a multi-discipline team of RL business management specialists. An exit meeting was conducted on November 16, 1998, to discuss the results of the review.

We received PNNL's written response to the initial report on November 19, 1998, and considered their comments in preparing the attached report. We expect that weaknesses identified in this review report will be addressed through mutually agreed-upon performance objectives, measures, and expectations and/or monitoring through operational awareness.

Based upon both the results of the review and input received from RL organizations that did not participate in the review, we concluded that PNNL is generally exceeding our performance expectations for business management. As a result, PNNL earned a FY 1998 performance rating of "Excellent" for overall performance in the business management functional areas.

Please issue this report to PNNL as the final report for Business Management Oversight Review for FY 1998. If you have any questions or concerns, please contact Tim Corbett of the Contract Finance and Review Division on 373-9562.

Alice Q. Murphy

Alice Q. Murphy, Assistant Manager
for Business Management and CFO

Attachment

Attachment

BUSINESS MANAGEMENT OVERSIGHT REVIEW REPORT FOR BATTELLE PACIFIC NORTHWEST NATIONAL LABORATORY

NOVEMBER 1998

PREPARED BY THE U.S. DEPARTMENT OF ENERGY RICHLAND OPERATIONS OFFICE

U.S. DEPARTMENT OF ENERGY (DOE)
RICHLAND OPERATIONS OFFICE (RL)
BUSINESS MANAGEMENT OVERSIGHT REVIEW
OF BATTELLE PACIFIC NORTHWEST NATIONAL LABORATORY (PNNL)
NOVEMBER 2-16, 1998

EXECUTIVE SUMMARY

INTRODUCTION

In accordance with DOE Order 224.1, the annual Fiscal Year (FY) 1998 multi-discipline business management review of PNNL was conducted by RL business management specialists during the period November 2-16, 1998. This report presents the results of that review.

The performance-based business management oversight process (BMOP) is an enhanced approach to management, is grounded in the concepts of total quality management, and fully supports the President's initiative to reinvent Government to make it more effective and cost efficient. The objective of this approach is to implement a system that encourages and rewards excellence and continuous improvement, and fosters improved and timely communication.

The BMOP provides that one multi-disciplinary business management review of each contractor may be conducted annually. Additionally, the BMOP provides that the contractors will conduct a self-assessment in the business areas based on mutually agreed-upon, predetermined performance objectives, measures, and expectations. Intervening reviews will not be conducted except on a "for cause" basis.

OBJECTIVE AND SCOPE OF REVIEW

The fundamental goal in conducting the review was to verify and validate PNNL's self-assessment of RL agreed to business management performance objectives, measures, and expectations for FY 1998. The scope of this review, however, was not limited to the review of PNNL's self-assessment.

Functional areas selected to be reviewed were: Administrative Services (Printing and Reproduction), Finance, Budget, Internal Audit, Human Resources Management, Information Management (Records Management only) Classification/Declassification, Personal Property Management, Procurement, and Training. Because RL's review of PNNL Training primarily focused on Environmental Safety and Health (ES&H) Training, the results of that review are reported in the FY 1998 Review of PNNL ES&H.

RL elected to not examine the following business management activities during this review: Administrative Services (mail and library); Congressional, Public, and Intergovernmental Affairs; Diversity; Information Management (other than Records Management); Laboratory

and Institutional Business Planning; Life Cycle Asset Management; Nuclear Safeguards and Security; Emergency Management; Scientific and Technical Information Administration; Technology Partnerships Administration; Worker Transition; Work-for-Others Administration; and Legal and Patent Services.

REVIEW METHODOLOGY

The overall model for the BMOP is to combine RL operational awareness and the annual onsite review with an effective PNNL self-assessment to provide a reasonable assurance of acceptable business practices. The cornerstone for this model must be well-defined objectives, measures, and expectations that "drive the business." RL determines success through "daily" operational awareness of PNNL's activities, PNNL's self-assessment, and the annual onsite review. The combination of these activities is intended to provide reasonable assurance of effective and efficient business practices.

The primary focus of the review was to verify and validate PNNL's self-assessment against agreed to performance objectives, measures, and expectations, although some RL review participants performed additional review steps. At the conclusion of this review, participants provided an adjectival performance rating for each business functional area reviewed. The ratings represent RL's FY 1998 evaluation of PNNL's effectiveness in meeting performance expectations and complying with applicable requirements.

RL business management specialists developed review objectives for each business functional area, which were provided to PNNL management prior to the onsite review. Planned review steps were discussed with PNNL during the entrance meeting. The review was accomplished by reviewing PNNL's self-assessments, conducting interviews with PNNL managers and staff, reviewing documentation, and walking through processes. The emphasis was placed on performance results and improvement of business management systems.

SUMMARY OF REVIEW RESULTS

We concluded, with reasonable assurance, that overall PNNL is exceeding our expectations. Although we identified some weaknesses during the review, those weaknesses were more than offset by strengths. We also concluded that PNNL's overall self-assessment was sufficiently accurate and adequate.

We concluded that PNNL is substantially exceeding our performance expectations in the areas of Internal Audit and Personal Property Management, which we rated as "Outstanding." We also concluded that PNNL is generally exceeding our performance expectations in the areas of Printing and Reproduction, Finance, Budget, Human Resources Management, Records Management, and Classification/Declassification, which we rated as "Excellent." We concluded that PNNL's performance in the area of Procurement was "Good."

RL found weaknesses, which were not otherwise covered by the Procurement self-assessment, or were not adequately addressed in the self-assessment report. This led us to select a rating, which more accurately reflected the evaluated level of performance.

Based upon our review, we identified strengths, weaknesses, and recommendations. Weaknesses were identified in several business areas; but none of those areas appear to warrant an additional, in-depth, "for-cause" review. Further details about the review are contained in the business functional areas' individual reports, which are included as appendices to the executive summary. Each business area's review report includes the objective of the review, review steps performed, results of the review, strengths, weaknesses, recommendations, and an adjectival performance rating. The adjectival performance ratings represent PNNL's performance throughout FY 1998 for each business function reviewed. We utilized the self-assessments, our "daily" operational awareness of PNNL activities, the results of this review, and other reviews conducted throughout the year to determine each rating. The following summarizes the business management strengths, weaknesses, and recommendations identified in the review.

BUSINESS MANAGEMENT STRENGTHS

1. PNNL Printing and Reproduction is actively involved in surveying customers to ensure satisfaction. Feedback from the surveys is used to improve processes within the existing system.

2. The following strengths in the area of Finance were identified:

   - PNNL Travel Accounting statistics (performance measure TA2) have improved significantly during the course of the fiscal year. First quarter statistics were substantially beyond the targeted ceilings, while fourth quarter statistics were well under.

   - PNNL met the FY 1998 performance goals for invalid labor hours. The monthly average percent of invalid labor hours was 2.5%, which is better than the acceptable level of performance of 3.0%. In addition, the percent of invalid hours greater than 60 days was 0.38% which is also well under target of 1.0%.

   - PNNL's revised/updated Finance Manual is now on the Internet.

   - In an effort to address the weakness associated with cost corrections identified in the FY 1997 BMOP review, PNNL developed a training class and a certification exam in June 1998. Currently, 107 different staff members have been certified. The commitment of significant resources to this effort is indicative of PNNL management's support.

3. PNNL management and commitment to the Budget self-assessment process has improved communication and lead to improved business management processes.

4. The Director of Auditing has successfully maintained well qualified, efficient audit staff that are providing effective audit reports.

   PNNL Internal Audit accomplished their annual audit plan, completed audits in accordance with auditing standards, and provided sound recommendations to PNNL management to improve operations and internal controls. One audit identified an inequity in the reimbursement methodology for Intellectual Property costs, which was estimated to be about $500,000 for FY 1998. PNNL is currently working with RL's Financial Management Division to determine an equitable adjustment to the Government for FY 1998 and previous years.

5. Human Resources (Industrial Relations), Engineering, and other divisions have been proactive in working to achieve collaboration with the union to achieve a number of goals. To date, there have been a number of successes attributed to the efforts including opportunities to mutually explore methods of solving problems and implementation of constructive solutions to problems facing the company and the site. Management and labor are jointly supporting the new environment.

6. The standard records management filing system used by PNNL is an excellent example for other contractors to use. In fact, one RL organization utilized PNNL's standard filing system to modify their own system, which will help meet their need for good records management.

7. The PNNL Hanford Declassification Project has experienced and knowledgeable review staff. They are reviewing and providing more information to the public than any other site in the complex and have a growing reputation throughout DOE of doing high quality reviews.

   The PNNL Classification Office is often called upon by the DOE Office of Declassification to assist in the writing and review of new classification guidance. This demonstrates the confidence that DOE Headquarters has in the knowledge of the Classification staff.

8. PNNL Property Management identified and resolved the deficiency in the Laboratory Equipment Pool and developed a corrective action plan. PNNL also has an excellent personal property loss rate of less than 0.5%.

9. PNNL Procurement appears to disseminate information to their staff in a timely manner, updating constantly their own internal guidelines and procedures by utilizing Intranet capabilities.

   The purchase card (P-card) system is a very strong asset, and will continue to be a greater asset, given time to further develop the system and educate the users. The P-card electronic system of reconciliation was of particular interest. The system simplified the reconciliation process.

BUSINESS MANAGEMENT WEAKNESSES/RECOMMENDATIONS

1. Dramatic changes to the "overrun/anticipatory" Budget performance measure methodology (as occurred in FY 1998) could significantly reduce PNNL's ability to evaluate its year-to-year performance.

   The majority of "anticipatories" in September 1998 were not prepared in advance of the overruns.

   Recommendations: In consultation with RL and PNNL's internal customers, the PNNL Chief Financial Officer (CFO) needs to finalize the performance measurement methodology as soon as possible.

   PNNL has made considerable progress in covering overruns with "anticipatories." However, greater attention is needed to ensure "anticipatories" are in place before the overrun occurs.

2. The following weaknesses/recommendations in the area of Human Resource Management were identified:

   - Some elements within the company do not recognize the importance of labor-management cooperation or the role of the collective bargaining process.

   - The Voluntary Protection Program (VPP) effort was delayed for a substantial period of time.

   - Training of the workforce is an essential ingredient that needs to be a part of the continuing process.

   Recommendations: PNNL Management should:

   - Ensure that the collaboration with the union to foster mutual problem solving initiatives currently in place continues and future avenues for additional opportunities are explored and implemented.

   - Provide continued support for the VPP.

   - Continue to work with the union to explore educational opportunities available to all employees.

3. Below are weaknesses/recommendations identified in the area of Procurement:

- The 1998 PNNL Procurement Balanced Scorecard Self-Assessment (BSS) (Section III, Corrective Action Plans) did not address concerns raised by RL in the 1997 BMOP Review Report and did not address the status of corrective actions that PNNL identified in their own 1997 self-assessment. The 1998 self-assessment report includes new concerns and corrective action plans; however, there is no evidence that the corrective actions previously identified actually resolved the concerns identified in previous years. Some of the "new" concerns identified appear to be internal control problems similar to those identified in 1997.

  Recommendation: PNNL needs to include as part of the BSS a section which addresses the previous years'concerns or issues and the status for resolution of the concerns or issues raised from the previous year.

- Inadequate technical evaluation of proposals was identified as a recurring problem. PNNL's corrective action was to put more pressure on the contract specialists to get better evaluations from their customers (the program offices). This may only address part of the problem and not the primary root cause. PNNL also needs to emphasize and/or educate its customers about the importance of good technical evaluations.

  Recommendation: PNNL Senior Management (at a higher level than the Contract Manager) should formally communicate to its customers the importance of adequate technical evaluation of cost proposals. This must have support from the customer's management.

- Price analysis continues to be a problem at PNNL. The Cost/Price function and the Contract Managers apparently have different views of what is an adequate price analysis. This inconsistency, of itself, may indicate another root cause.

  Recommendation: Recurring problems in performing cost/price analyses should be identified, and substantive root cause analysis performed. RL may need to provide guidance, if interpretation of Federal and DOE regulation or policy is one of the root causes of the deficiencies.

- Sole source justifications lacked clear defined explanations for not obtaining competition. More attention to pertinent detail is needed in future sole source justifications.

  Recommendation: For sole source procurement actions, improvement needs to be made in preparing and reviewing the justifications. Familiarity with the vendor or product, of itself, is not a sufficient basis for the sole source justification.

ADDITIONAL COMMENT FOR MANAGEMENT CONSIDERATION

The Classification Office must maintain a high level of vigilance over PNNL's classified and potentially classified programs. Knowledgeable authorized classifiers, located at the appropriate locations throughout the organization, are the backbone of any classification program. Since the document generation and control is decentralized at PNNL, adequate oversight is a continual challenge. This review did not indicate a problem in this area; however, it is being addressed to increase PNNL's overall awareness of this oversight challenge.

PNNL management should ensure that there is continued oversight of the potentially classified programs within the laboratory so that sensitive information is appropriately identified.

U.S. DEPARTMENT OF ENERGY (DOE)
RICHLAND OPERATIONS OFFICE (RL)
BUSINESS MANAGEMENT OVERSIGHT REVIEW
OF BATTELLE PACIFIC NORTHWEST NATIONAL LABORATORY (PNNL)

FUNCTIONAL AREAS OF REVIEW AND
RL REVIEW TEAM MEMBERS

REPORT OUTLINE

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RICHLAND OPERATIONS OFFICE
BUSINESS MANAGEMENT OVERSIGHT REVIEW
OF BATTELLE PACIFIC NORTHWEST NATIONAL LABORATORY (PNNL)

PRINTING AND REPRODUCTION

I. Functional Area of Review

Printing and Reproduction

II. Objective of Review

Verify PNNL's assessment of printing and reproduction to ensure that printed material is produced in compliance with Federal statutory provisions and congressional regulations.

III. Review Steps Performed

1. Reviewed the PNNL printing and reproduction self-assessment, organization and staffing levels, policies and procedures, FY 1998 budgeted and incurred costs, and the FY 1999 planned budget.

2. Interviewed PNNL about the use of DocuTech technology as well as the possibility of offering this technology to other site contractors.

3. Reviewed updated FY 1998 customer service surveys.

4. Interviewed PNNL about their interface with Lockheed Martin Services, Inc. (LMSI) for the Government Printing Office (GPO) workscope.

IV. Results of Review

1. Based upon my review, I determined, with reasonable assurance, that printed material is produced in compliance with Federal statutory provisions and congressional regulations.

2. PNNL's DocuTech technology is in the production mode and could easily accept workscope from other Hanford Site contractors. The only barrier appears to be the PNNL overhead that would be added to any work coming in from the outside.

3. PNNL has an excellent system for tracking customer service satisfaction. The survey forms are provided with each order received as it is finalized. The customer then has the opportunity to complete the survey and provide feedback for the services rendered. This information is then used to improve services within each of the three different service centers.

4. PNNL has an excellent working relationship with the LMSI GPO coordinator, who has proven to be a cost-effective resource for PNNL.

V. Strengths

PNNL Printing and Reproduction is actively involved in surveying customers to ensure that satisfaction is met. Feedback from the surveys is used to improve processes within the existing system.

VI. Weaknesses

No significant weaknesses were identified.

VII. Recommendations

Not applicable.

VIII. Performance Rating

"Excellent" – PNNL has proven to be a leader in the area of Printing. Deployment of the DocuTech technology indicates PNNL's recognition of printing needs for the present and the future. As a result of process improvements, PNNL also has an excellent customer service record.

RICHLAND OPERATIONS OFFICE
BUSINESS MANAGEMENT OVERSIGHT REVIEW
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FINANCE

I. Functional Area of Review

Finance

II. Objective of Review

There are three main objectives of the RL Financial Management Division (FMD) review:

1. Review six self-assessment measures, included in the Finance Directorate plan, to validate PNNL's self-assessment results for Travel Accounting (five measures) and percent of invalid labor hour to determine if our agreed-upon fiscal year (FY) 1998 performance objectives were successfully met.

2. Follow up on an Inspector General issue regarding PNNL travel.

3. Determine if the recommendations to correct weaknesses identified in last year's Business Management Oversight Program (BMOP) report were implemented.

III. Review Steps Performed

1. a. Reviewed quarterly self-assessment reports for all five of these self-assessment areas: TA1 - Cost per travel transaction, TA2 – Travel Accounting statistics (backlog, unsettled, outstanding, accruals made and number of days to reimburse staff), TA3 – Travel focus group report, TA5- Ensure reconciliation to General Ledger, and B02 – Accuracy of Expense Reports.

   b. Reviewed fourth quarter self-assessment source data supporting the five Travel Accounting Self-Assessment areas.

   c. Discussed the entire travel process, including forms, procedures, and other relevant documentation requirements with PNNL's Travel Accounting Manager to determine if there are areas that could be improved.

d. Verified that FY 1998 percent of invalid labor hours of 2.57% and percent of labor hours greater than 60 days old of 0.38%.

e. Reviewed PNNL's procedures and instructions on invalids to determine whether they are kept up to date.

f. Selected a sample of invalid corrections from the invalid reports to verify that:

- Invalid corrections were made only with required signature approvals or delegations.

2. Discussed an IG investigation issue with PNNL's Travel Accounting Manager to determine if corrective actions have occurred.

3. Determined if the following recommendations in RL's November 14, 1997 BMOP review of PNNL's Finance Directorate has been adequately implemented:

a. PNNL should update procedures and instructions on cost corrections to reflect all actual practices. PNNL should implement procedures to ensure reasons for cost correction are clear and complete, and provide a sound basis for evaluation and approval. PNNL should ensure the appropriate checks and balances are in place such that the Business Manager/Finance Specialist does not approve his/her own cost transfer between projects/pools.

b. Additional progress on updating company policies and procedures need to be made and published on the Internet.

IV. Results of Review

Based upon our review, it appears that PNNL has successfully met their FY 1998 performance objectives for Travel Accounting and percent of invalid labor hours. Our review also leads us to believe that corrective actions from the FY 1997 review have been implemented. The detailed results of our review are below:

1. a. PNNL's self-assessments of the travel area show that Travel Accounting "Met Expectations" for all five of these self-assessment areas. The self-assessments provide sufficient detail, and historical information shows that significant improvements have been achieved in these areas, and the targets have been met.

b. Our review of the self-assessment source data shows that proper reconciliation and oversight is occurring in these self-assessment areas, and the documentation exists to substantiate the results.

c. Our review of the travel process, forms, procedures, and other relevant documentation found no areas that need to be improved.

d. FMD verified that FY 1998 monthly average percent of invalid labor hours was 2.57% which is under the acceptable level of performance of 3.0%. In addition, we verified the percent of invalid hours greater than 60 days was 0.38% which is under the target of 1.0%. We reviewed PNNL's calculation for the metric. The numerator included all invalid labor hours for the month. The denominator included all of the total labor hours worked for the month.

e. PNNL's procedure and instructions on invalid hour correction are up to date. PNNL put out the revised/updated Finance Manual on the Finance Homepage in June 1998. As a result, with the exception of the portions associated with the User Permit, all relevant sections of the manual are now current.

f. According to PNNL's procedures, signature approval includes that of an exempt Finance staff member (i.e., Business Manager, Financial Specialist). Signature authority may be delegated to a non-finance staff member and/or to non-exempt staff member. Our review of each of item sampled disclosed at least one signature for an invalid correction.

2. Our review of a prior year IG investigation finding resulted in us determining that the issues are no longer relevant. The emphasis on improving Travel Accounting statistics since FY 1996 has corrected the issue by providing management focus. For example, backlog in unsettled and outstanding trips was 2074 trips in December 1996. At the end of FY 1998, the backlog in outstanding trips was 11, and the backlog in unsettled trips was 15. There is no longer a problem in this area. As background, the issue originally resulted over a period of time as the Travel Accounting group was undergoing substantial loss of personnel. Adding to the problem was the fact that numerous travel agencies were involved, and a new credit process was initiated in FY 1996. These all combined to result in a substantial backlog of unreconciled (unsettled) trips. Process improvements, going to one travel agency, increased staffing, and a focus on this problem via the self-assessment process have mitigated this problem, as the results show.

3. PNNL Finance has corrected the weakness identified in the in prior business management oversight review. The following corrective actions have been implemented to address those weaknesses:

   a. PNNL has updated their policies and procedures to reflect current practices on cost corrections. The current PNNL procedure requires that reasons for cost correction need to be clear and complete, and should provide a sound basis for evaluation and approval. Business Manager/Finance Specialist may not approve his/her own cost transfer between projects/pools. A training class on how to

prepare and review cost corrections was developed in June of 1998. Staff who prepare and provide financial approval of cost corrections would have to take the training class and the certification exam before she/he could prepare or financially approve cost corrections. As today, 107 different staff members have been certified.

b. As stated above, the updated Finance Manual is currently on the Internet. As a result, with the exception of the Use Permit sections, which is targeted for completion by the end of 1998, all relevant sections of the manual are now up to date. PNNL will require responsible parties to update their sections of the Finance Manual once a year. If a major change in policy/procedure takes place during the year, the corresponding Manual section will be updated promptly. This would keep the Manual from becoming out-of-date, which has been a problem in the past.

V. Strengths

PNNL Travel Accounting statistics (performance measure TA2) have improved significantly during the course of the fiscal year. First quarter statistics were substantially beyond the targeted ceilings and fourth quarter statistics are well under.

PNNL met the FY 1998 performance goals for invalid labor hours. The monthly average percent of invalid labor hours was 2.5%, which is under the acceptable level of performance of 3.0%. In addition, the percent of invalid hours greater than 60 days was 0.38% which is also well under target of 1.0%.

PNNL's revised/updated Finance Manual is now on the Internet.

In an effort to address the weakness associated with cost corrections identified in the FY 1997 BMOP review, PNNL developed a training class and a certification exam in June of 1998. Currently, 107 different staff members have been certified. The commitment of significant resources to this effort is indicative of PNNL management's support.

VI. Weaknesses

No significant weaknesses were identified.

VII. Recommendations

Not Applicable.

VIII. Performance Rating

"Excellent" – PNNL has met or exceeded expectations in all of the 12 Finance function areas for FY 1998. Although there are some control weaknesses and minor deficiencies noted by DCAA and PNNL Internal Audit, in general PNNL has been conducting financial management activities responsibly and effectively. We also note that PNNL has been proactive in working with RL to improve their self-assessment process and performance measures.

RICHLAND OPERATIONS OFFICE
BUSINESS MANAGEMENT OVERSIGHT REVIEW
OF BATTELLE PACIFIC NORTHWEST NATIONAL LABORATORY (PNNL)

BUDGET

I. Functional Area of Review

Budget

II. Objective of Review

To validate PNNL's FY 1998 budget related self-assessment results and review PNNL's management of the anticipatory process.

III. Review Steps Performed

1. Performance Measure BE1: To ensure DOE obligated funds are authorized as quickly as possible to PNNL project managers.

   Met with PNNL staff responsible for this measure and requested documentation supporting their performance results. They provided a listing of all reserve accounts and their balances.

2. Measure BE2: Minimize Financial Plan overruns by providing monthly overrun report.

   Met with PNNL staff responsible for this measure to discuss issues or concerns with preparation of the report. Reviewed selected overrun reports for consistency of data. Compared final overrun report to DISCAS overruns and PNNL final contract summary. Also reviewed reasons for overruns at fiscal yearend.

3. Measure BE3: Minimize uncosted balances by reviewing 90% of the non-EM Budget and Reporting categories for program status and return funds where not required or project completed.

   Ascertained from PNNL staff responsible for this measure the methodology for determining funds were not required or the project was completed.

4. Measure BO3: Minimize overruns and ensure the risk associated with work not covered by an authorization is accepted by management.

   Met with PNNL staff responsible for this measure and obtained documentation or information clarifying the basis for their results. Reviewed the measure and discussed their logic for changes to the measure during the year. Looked at the list of overruns addressed in the Fourth Quarter report to insure that the statement "of the overrun amounts, 100% of the dollar amounts are covered by anticipatory accounts" was supported. Obtained copies of all Anticipatories in place at fiscal yearend covering overruns.

IV. Results of Review

1. Measure BE1

   PNNL's goal is to clear all funds received from RL in the financial plan to specific projects by fiscal yearend after determining that work authorizations are in place. A report was provided showing that all PNNL program manager accounts had zero balances with the exception of one that required RL action. Their descriptive level of performance is supported.

   This measure reflects good internal business practices, is well written, and measurable. It will be in place as written in FY 1999.

2. Measure BE2

   The PNNL overrun report was provided to RL regularly in FY 1998. This report reflected overruns by contract and contained enough information to allow analysts to determine status of funds at a glance, as well as comments on actions being taken by PNNL to mitigate these overruns. It is used by RL budget analysts and the PNNL business office to manage and reduce overruns. Comparisons of this report to DISCAS indicate that the report is correct. Their descriptive level of performance is supported.

   This measure reflects good internal business practices, is well written and measurable. It aligns with the BO3 measure and supports the Business Office by insuring funds control. It will be in place as written in FY 1999.

3. Measure BE3

   All financial plan projects, excluding EM, were reviewed to reduce uncosted balances. By August, FY 1998 all projects with FY 1997 uncosted and no FY 1998 activity were identified and funds withdrawn from these projects unless project managers justified a need for the funds. The funds were then certified as available for

withdrawal. These actions resulted in an uncosted reduction of $62,664 from uncosted, unencumbered balances covering 35 different BNR's. Their descriptive level of performance is supported.

This measure reflects good internal business practices, is well written and measurable. It will be in place as written in FY 1999.

4. Measure BO3

At the end of FY 1998, of the 760 financial plan contracts PNNL had 19 overruns totaling approximately $659,000. Of these overruns, six overran the work authorization or budget and reporting (bnr) code, five overran an ADS and only two had overruns in the previous month.

Ten of the nineteen overruns (approximately 50%) had an anticipatory in place at yearend. This was an improvement over the previous six months when 25% or less had anticipatories in place. This improvement can be credited to greater project overrun visibility and Business Office commitment to reduce PNNL liability while meeting customer and project manager needs. Both PNNL and RL recognize that continued improvement in this area is important. Although RL is not in full agreement with the methodology used to gather and evaluate data leading to the statement that "current performance for the fourth quarter is good with overruns amounting to .2% of lab business volume," it is clear from discussions with the business office and evidence on the overrun report that overruns receive immediate attention and resolution of these have a high priority.

This is the first year this measure has been under the Business Office. PNNL changed the objective and measurement methodology during FY 1998. The business management practices emphasized by this measure have a far-reaching effect on PNNL and the customer and it is of utmost importance that a solid measure be developed that meets all of these needs to the greatest extent possible. Although this is a difficult and evolving process, PNNL has responded by recommending changes and improvements for FY 1999.

V. Strengths

The PNNL management of and commitment to the self-assessment process has improved communication and lead to improved business management processes.

VI. Weaknesses

Dramatic changes to the "overrun/anticipatory" performance measure methodology (as occurred in FY 1998) could significantly reduce PNNL's ability to evaluate its year-to-year performance.

The majority of "anticipatories" in September 1998 were not prepared in advance of the overruns.

VII. Recommendations

In consultation with RL and PNNL's internal customers, the PNNL Chief Financial Officer (CFO) needs to finalize the performance measurement methodology as soon as possible.

PNNL has made considerable progress in covering overruns with "anticipatories." However, greater attention is needed to ensure "anticipatories" are in place before the overrun occurs.

VIII. Performance Rating

"Excellent"

Rationale for rating: RL agreed with the performance ratings PNNL gave themselves in their annual self-assessment for the first three measures; BE1 (Outstanding), BE2 (Excellent), and BE3 (Excellent). The BO3 measure did not have a numerical self-rating.

The combined self-evaluations, coupled with PNNL's strong efforts to improve the BO3 performance in FY 1998 and improve the measure for FY 1999, serve as the basis for the "Excellent" rating.

RICHLAND OPERATIONS OFFICE
BUSINESS MANAGEMENT OVERSIGHT REVIEW
OF BATTELLE PACIFIC NORTHWEST NATIONAL LABORATORY (PNNL)

INTERNAL AUDIT

I. Functional Area of Review

Internal Audit

II. Objective of Review

Validate PNNL Internal Audit's self-assessment results to determine if our agreed-upon fiscal year (FY) 1998 performance objectives were successfully met. The self-assessment concluded that Internal Audit:

- accomplished their adjusted audit schedule in accordance with the Institute of Internal Auditors (IIA) auditing standards,
- had full disclosure of all material conditions found during audits,
- achieved management's acceptance of audit recommendations,
- tracked all audit recommendations to closure, and
- responded to Office of Inspector General (IG) and General Accounting Office (GAO) requests within agreed to dates.

III. Review Steps Performed

1. Reviewed audits completed during FY 1998 to determine if PNNL completed audits in accordance with their adjusted audit plan.
2. Selected a sample of PNNL internal audit working papers and reviewed them to determine if:
   - audits were completed in accordance with IIA auditing standards,

- PNNL fully disclosed all conditions found during their reviews, and

- PNNL management has accepted audit report recommendations.

3. Reviewed PNNL's audit follow-up tracking system to determine if outstanding audit recommendations are being tracked.

4. Interviewed PNNL and RL individuals to determine if PNNL provided IG investigation referrals within 20 days of receipt or by agreed to dates, and provided IG/GAO requests for information within RL requested due dates.

IV. Results of Review

Based upon our review of the Internal Audit function, we believe that PNNL has successfully met their FY 1998 Internal Audit performance objectives. The detailed results of our review are below:

1. PNNL submitted two revisions to the original FY 1998 audit plan that were subsequently approved by RL. We determined that PNNL completed nine of the twelve planned audits and completed three unplanned "special request" audits. Although all the audits listed in PNNL's latest revised audit plan were not completed in FY 1998, overall we believe PNNL has successfully met our performance expectations. PNNL Internal Audit has issued more audits in FY 1998 than previous fiscal years and significant, meaningful findings were identified. Those findings have resulted in notable improvements to PNNL policies and procedures.

2. We judgmentally selected and reviewed the working papers for five audits. Our review verified that PNNL completed those audits in accordance with IIA auditing standards, disclosed all conditions found during the reviews, and management accepted the audit report recommendations.

3. We determined that outstanding audit recommendations are being tracked until closure. The secretary for PNNL Internal Audit maintains audit follow-up for all outstanding audit recommendations and obtains status reports for any open recommendations on a quarterly basis.

4. We concluded that PNNL Internal Audit coordinated timely responses to IG and GAO information requests. In fact, the IG and GAO have told us that PNNL has been very responsive to their requests for information. PNNL did not receive any investigation referrals in FY 1998.

V. Strengths

1. The Director of Auditing has successfully maintained well qualified, efficient audit staff that are providing effective audit reports.

2. PNNL Internal Audit accomplished their annual audit plan, completed audits in accordance with auditing standards, and provided sound recommendations to PNNL management to improve operations and internal controls. One audit identified an inequity in the reimbursement methodology for Intellectual Property costs, which was estimated to be about $500,000 for FY 1998. PNNL is currently working with RL's Financial Management Division to determine an equitable adjustment to the Government for FY 1998 and previous years.

VI. Weaknesses

No significant weaknesses were identified.

VII. Recommendations

Not Applicable.

VIII. Performance Rating

"Outstanding" – PNNL has significantly exceeded our expectations of maintaining an effective Internal Audit organization. PNNL Internal Audit staff have been very efficient in completing assigned audits in a timely manner and have identified significant, meaningful audit findings. Audit findings have resulted in notable improvements to PNNL policies and procedures.

RICHLAND OPERATIONS OFFICE
BUSINESS MANAGEMENT OVERSIGHT REVIEW
OF BATTELLE PACIFIC NORTHWEST NATIONAL LABORATORY (PNNL)

HUMAN RESOURCE MANAGEMENT

I. Functional Area of Review

Human Resources

II. Objective of Review

Validate PNNL Human Resources self-assessment results. The process will focus on the initiation, evolution, and tangible and intangible successes of partnership efforts between PNNL management and the Hanford Atomic Metal Trades Council (HAMTC). Inasmuch as labor management partnering is a broad-based undertaking, the review included, but was not limited to, validating the scope of collaboration efforts; depth of management and union involvement; and auditing actual data such as grievance resolution, training efforts, and project implementation.

III. Review Steps Performed

1. Interviewed management and union representatives to ascertain the nature of initiatives in place and evaluation of those efforts.

2. Reviewed leadership of management and union representatives as demonstrated by the number of written grievances and the ultimate resolution of those issues-dismissed, withdrawn or arbitrated as well as the time management for this process.

3. Evaluated joint HAMTC/PNNL initiatives for improvement of the workplace environment.

4. Reviewed the relationship between training implemented and process improvement.

5. Examined labor-management initiatives in response to workplace changes proposed by DOE.

IV. Results of Review

Based upon the review of the Human Resource function, we believe PNNL has successfully met, and at times, exceeded their FY 1998 Labor-Management performance objectives. The detailed results of our review is provided in the following:

1. We compared the divergent views on the new direction PNNL has taken relevant to labor-management collaboration as a tool for resolving problems, meeting expectations, and creating an environment conducive to improving operations, reducing cost and cycle time, and developing opportunities for growth. We found commitment and support from almost every segment of the organization starting with Dr. Madia and ending with the workers. All point to the culture change that has occurred throughout the organization which is, in part, a result of the emergence of a new Hanford mission.

2. We called for actual numbers and trends in grievances. The records accurately reflected information sought, including, but not limited to, a noticeable trend to improvement in grievance resolution processes. We anticipate that, as in private industry, the statistics in this area will change dramatically with the new labor-management interface.

3. We compared the PNNL reports of joint HAMTC/PNNL initiatives for workplace improvement and found that the company had actually underreported the number of programs in place. We requested and reviewed the actual number and types of projects underway and found that the efforts cover almost every phase of the contractor's work. Some representative efforts include improvement of operational effectiveness through a joint design and implementation steering committee, a group which has also created a number of workshops to develop improved work flows, facilitate transition to new organizational structure, and clarification of roles and responsibilities. In addition, other joint labor-management attempts led to establishment of teams to (1) facilitate work at the Applied Processing and Engineering Laboratory (APEL), (2) reduce cycle time for completing maintenance and operation work (an off shoot of the Laboratory Operations Improvement Initiative), and (3) develop cooperative ventures with other site contractors and private entities to facilitate transition of equipment and other materials.

4. In reference to the review of the merits and need for training, several factors became evident. When the contractor identified a need for labor law training, individuals from Procurement, Engineering, and Maintenance Services not only worked together to establish, but also participated in, DOE provided training sessions. Subsequently, HAMTC became part of the Contractor's Plant Force Work Review (PFWR) sessions with several tangible and intangible products resulting from the process, including improved project descriptions, reduction in the number of grievances, and improved communication. In addition, as a result of an employee concern, a labor and

management team developed a Chemical Awareness Training Program, which is designed to meet both the needs of the employees and management. Continued cooperation on the educational front is a must for everyone concerned.

5. Regarding the contractor's response to changes requested by DOE, one only has to look at the Voluntary Protection Program (VPP) and the Hanford Stop Work. PNNL and HAMTC initiated efforts to bring the concept of the VPP to the organization. The work in this area has been delayed a bit due to the reorganization within PNNL, an element that also has had input from the bargaining unit. We would anticipate that this crosscutting program would get the needed support. In regards to the Stop Work, the workers now are more comfortable with using this approach. In fact, work is "interrupted" and not stopped in order to remedy a problem leading to greater cooperation, safety, and productivity.

V. Strengths

1. Human Resources (Industrial Relations), Engineering, and other divisions have been proactive in working to achieve collaboration with the union to achieve a number of goals. To date, there have been a number of successes attributed to the efforts including opportunities to mutually explore methods of solving problems and implementation of constructive solutions to problems facing the company and the site.

2. Management and labor are jointly supporting the new environment.

VI. Weaknesses

1. Unfortunately, some elements within the company do not recognize the importance of labor-management cooperation or the role of the collective bargaining process.

2. The VPP effort was delayed for a substantial period of time.

3. Training of the workforce is an essential ingredient that needs to be a part of the continuing process.

VII. Recommendations

1. Management needs to assure that the collaboration with the union to foster mutual problem solving initiatives currently in place continue and future avenues for additional opportunities are explored and implemented.

2. Continued support and development of VPP.

3. Management and union continue to work together to explore the educational opportunities available to all employees.

VIII. Performance Rating

"Excellent" - PNNL exceeded our expectations in implementing a new labor-management culture. However, there are a number of areas that are in the preliminary stage and a final determination as to effectiveness must be based on future growth and development.

RICHLAND OPERATIONS OFFICE
BUSINESS MANAGEMENT OVERSIGHT REVIEW
OF BATTELLE PACIFIC NORTHWEST NATIONAL LABORATORY (PNNL)

RECORDS MANAGEMENT

I. Functional Area of Review

Records Management

II. Objective of Review

Review PNNL's assessment of records management and evaluate whether they provided efficient and cost effective management of Federal records throughout their lifecycle.

III. Review Steps Performed

1. PNNL's FY 1998 self-assessment of records management was reviewed to determine if they successfully accomplished RL agreed-upon performance expectations for FY 1998.

2. Records Management organization and staffing levels, policies and procedures, FY 1998 budgeted and incurred costs, and FY 1999 planned budget were reviewed to assess whether PNNL provided efficient and cost effective management of Federal records.

IV. Results of Review

1. Based upon the review of PNNL's self-assessment, the Records Management organization successfully accomplished RL agreed-upon performance expectations for FY 1998.

2. The review of the PNNL Records Management organization structure, staffing levels, policies and procedures, FY 1998 incurred costs, and FY 1999 budgeted costs concluded that PNNL appears to be managing Federal records in an efficient and cost effective manner.

V. Strengths

The standard records management filing system used by PNNL is an excellent example for other contractors to use. In fact, one RL organization utilized PNNL's standard filing system to modify their own system, which will help meet their need for good records management.

VI. Weaknesses

No significant weaknesses were identified.

VII. Recommendations

Not applicable.

VIII. Performance Rating

"Excellent" – PNNL has an excellent Records Management program. PNNL's standard filing system provides one single method for accounting for records throughout the Laboratory. PNNL continues to advance and become more involved in the electronic records arena. Funding the Electronic Records and Information Capture Architecture (ERICA) project in FY 1999 will enable PNNL to create and manage documents electronically.

RICHLAND OPERATIONS OFFICE
BUSINESS MANAGEMENT OVERSIGHT REVIEW
OF BATTELLE PACIFIC NORTHWEST NATIONAL LABORATORY (PNNL)

CLASSIFICATION/DECLASSIFICATION

I. Functional Area of Review

Classification/Declassification

II. Objective of Review

Assess the adequacy and performance of the PNNL Classification and Declassification functions by reviewing and evaluating a sample of the product generated during the fiscal year.

III. Review Steps Performed

1. Reviewed a representative sample of documents declassified by the Hanford Declassification Project during FY 1998. Steps taken to assess the declassification performance include:

   - Verifying that documents were appropriately declassified and/or retained;
   - Verifying that documents which required deletions were correctly deleted;
   - Verifying that correct guidance was utilized in making decisions;
   - Verifying that two authorized individuals were involved in making the decisions;
   - Validating that documents were being selected and reviewed for quality.

2. Reviewed a representative sample of documents classified by PNNL authorized classifiers during FY 1998. Steps taken to assess the classification performance include:

   - Verifying that documents were classified at the appropriate level;
   - Verifying that documents were classified using correct classification guidance;

- Verifying that documents were classified by an authorized derivative classifier;
- Validating that documents had the correct classification markings.

IV. Results of Review

Based upon the review of the Hanford Declassification Project and the PNNL Classification function, we believe that PNNL has satisfactorily met the intent of the requirements for these specific areas. The detailed results of the performance assessment are provided below:

1. Two hundred and forty two documents were selected and reviewed as part of the oversight of the Hanford Declassification Project during FY 1998. Although a few minor questions arose during the reviews, most were procedural in nature. Satisfactory resolution of all questions was promptly made. In general, the declassification product was of high quality and demonstrated a commitment to excellence.

2. Fifty-seven documents were selected for review from seven organizations within PNNL. Although there were some minor discrepancies found in the marking of documents, all documents reviewed were classified at the appropriate level and category, by an authorized individual.

V. Strengths

The PNNL Hanford Declassification Project has a very senior and knowledgeable reviewer staff. They are reviewing and providing to the public more information that any other site in the complex. They have a growing reputation throughout DOE of doing high quality reviews.

The PNNL Classification program is also composed of knowledgeable reviewers. Knowledgeable individuals who perform classification reviews are the "gate keepers" between the protection and the release of information. The PNNL Classification Office is often called upon by the Department of Energy Office of Declassification to assist in the writing and review of new classification guidance. This is a demonstration of the confidence that DOE Headquarters has in the knowledge of the Classification staff.

VI. Weaknesses

No significant weaknesses were identified.

VII. Recommendation

Not applicable.

VIII. Comment for Management Consideration

The Classification Office must maintain a high level of vigilance over PNNL's classified and potentially classified programs. Knowledgeable authorized classifiers, located at the appropriate locations throughout the organization, are the backbone of any classification program. Since the document generation and control is decentralized at PNNL, adequate oversight is a continual challenge. This review did not indicate a problem in this area; however, it is being addressed to increase PNNL's overall awareness of this oversight challenge.

PNNL management should ensure that there is continued oversight and vigilance of the potentially classified programs within the laboratory so that sensitive information is appropriately identified.

IX. Performance Rating

"Excellent" – PNNL performance in the Classification and Declassification areas has exceeded our expectations. Documents are generated and classified appropriately. Document declassification reviews are of a high quality and the product in a format ready for public release.

RICHLAND OPERATIONS OFFICE
BUSINESS MANAGEMENT OVERSIGHT REVIEW
OF BATTELLE PACIFIC NORTHWEST NATIONAL LABORATORY (PNNL)

PERSONAL PROPERTY MANAGEMENT

I. Functional Area of Review

Personal Property Management

II. Objective of Review

Validate PNNL Personal Property's self-assessment results to determine if the agreed-upon fiscal year (FY) 1998 performance objectives were successfully met.

III. Review Steps Performed

1. Reviewed inventories completed during FY 1998 to determine if they met the standards.

2. Reviewed PNNL's performance measures results for Property Management.

3. Interviewed PNNL personal property management to discuss corrective actions or improvements that were implemented.

4. Reviewed the year's performance in submissions to RL on property management issues.

IV. Results of Review

Based upon our review of the Personal Property function, it is believed that PNNL has successfully met their FY 1998 performance objectives.

1. PNNL's Balanced ScoreCard results, in general, met the performance expectations that were established in the plan.

2. The property management submittals were submitted on time and fully completed.

V. Strengths

1. PNNL identified and resolved the deficiency in the Laboratory Equipment Pool and developed a corrective action plan.

2. PNNL had an excellent personal property loss rate of less than 0.5%.

VI. Weaknesses

No significant weaknesses were identified.

VII. Recommendations

Not Applicable.

VIII. Performance Rating

"Outstanding" – PNNL has significantly exceeded our expectations of maintaining an effective Property Management System and Program.

RICHLAND OPERATIONS OFFICE
BUSINESS MANAGEMENT OVERSIGHT REVIEW
OF BATTELLE PACIFIC NORTHWEST NATIONAL LABORATORY (PNNL)

PROCUREMENT

I. Functional Area of Review

Procurement - Balanced Scorecard Self-Assessment

II. Objective of Review

The primary objective is to review and validate PNNL's Balanced Scorecard Self-Assessment (BSS). The main focus of the review will include verification of survey results, incorporation of comments, extent of competition, effective utilization of alternate procurement methods, effective cost-price analysis, and effective internal controls. The review will also determine whether or not problems, issues or concerns raised in previous reviews have been corrected.

III. Planned Actions

1. Review survey results, including comments, for survey performed during FY 1998.
2. Review purchase card results for FY 1998 to validate numbers and reviewed the purchase card program for compliance with internal guidelines.
3. Review of cost/price analysis.
4. Review of judgmental sample of sole-source justifications for procurements over $100,000 to validate utilization of established guidelines for sole sources.
5. Review internal controls to determine if adequate procedures and guidelines exist.

IV. Results of Review

1. Customer Perspective

Reviews of the survey results from the Customer Survey were validated and comments noted. The report does not contain, however, any historical data for comparison purposes, which precludes any trend analysis. There is no documented

attempt to review the basis of any negative comments and determine what corrective actions are warranted, if any. We conclude from the customer survey results that, as a minimum, the PNNL Contracts Department does need improvement in communication with user organizations with respect to the purchasing process and status of corrective actions.

2. **Internal Business Perspective**

Internal Business Perspective. The PNNL BSS report indicates that 37 areas were tested through use of a checklist, but does not identify the specific areas tested or the extent of review required by the checklist. As a result, the scope of PNNL's review is not clear and there is no measure of relative importance between criteria. Comments such as "adequate systems and procedures have been established," "training is generally adequate," and "adequate advance planning is being conducted;" are not supported. Other review comments such as "The management information system does not adequately provide data for oversight of the contracting activity," or "The Specialists are generally considering socio-economic requirements," are nondescriptive and there is no discussion to indicate what criteria was used or the observations made. Without such support, the third party reader cannot understand how and in what depth the purchasing system was evaluated.

Cost/Price Analysis. The PNNL BSS report states on page 7 that "Approximately 63% of the files were found to be procedurally consistent with sound price analysis techniques and procedures yielding an adequate analysis." This conflicts with the page 8 assertion that there was "an adequacy rate of 81.4%" (see Independent Reviews below). Our office also cannot interpret the report's conclusion, "Although it was determined that the deviations did not impact the final outcome of the analysis...." In our opinion, more meaningful cost/price analysis always impacts the final outcome in terms of assurance; however, this must be tempered with other value-added considerations (e.g., reliability of the price analysis technique or dollar value).

Although PNNL has a long history of deficiencies identified in the area of cost/price analysis, there is no indication that substantive improvement has been attained. The associated PNNL procedures are generally adequate; however, actual implementation/performance requires greater management attention.

The report also states that $4,711,453 was "achieved effective savings," without explanation as to what the savings represent. Detailed discussion of such factors as the subcontract type, how much resulted from a change in work scope or a revised proposal, or how much was related to cost versus fee, would be beneficial to understand the nature of the cost savings. In addition, historical data would provide a measure to compare to the current results for trend and variance analysis.

Effective Utilization of Alternative Procurement. PNNL asserts that P-cards have been effective to streamline the process. There is no analysis or review to support this conclusion. We note that other DOE contractors have found that P-cards can be overused and prices paid can be more than those negotiated under purchase orders. Certainly the user organizations appreciate the quick purchase capability, however, overall cost effectiveness and adequate control need to be validated.

Technical Evaluations. The discussion of technical evaluations does not properly distinguish technical evaluations of cost proposals from the evaluation of an offeror's technical response to the solicitation. The discussion presented by PNNL should be captured under "cost/price analyses." Technical evaluations as they relate to source selection should be addressed separately. In addition, the conclusions on page 6 which indicates that evaluations of cost proposals were "adequately documented" conflicts with the conclusion on page 13 that over half of the technical evaluations were inadequate and often superficial. Although the BSS report emphasizes that technical evaluations were received in sufficient time to be incorporated into the cost/price analysis, it would not appear beneficial unless the technical evaluations were adequate.

Negotiation and Award. The PNNL BSS report concludes that "overall, the files were adequately documented to support the business decisions that were made. In a very high percentage of the times [sic], negotiations were conducted in an efficient and effective manner and corresponding file documentation was adequate." No other specific details were provided to support such global assertions. Prior reviews have noted this as an area of deficiency; however, PNNL has not explained how improvement has been attained.

Independent Reviews. The report cites an independent review performed by the PNNL Auditing Department on the invoice review process. The relevancy to the purchasing system is not clear, as the internal audit appears to focus on the accounts payable function which is normally under the purview of the finance organization. The BSS report does not identify any internal audits that were performed on the purchasing system per se. The PNNL prime contract (DEAR 970.5204-20) requires periodic review of the systems as part of an independent internal audit function. As a result, RL cannot readily ascertain if the management controls for the purchasing system have been properly tested and determined to be effective.

The other independent review was performed by the PNNL Cost Analyst, who identified a 37 percent error rate in cost/price analyses (performed by the contract specialists) as compared to the 18.6 percent error rate contract manager's found in reviewing their organization's files. The PNNL BSS report states that "The inconsistency between the CM's adequacy rate (82+%) and the C/P adequacy rate (63%) needs to be reduced." The report goes on to recommend a corrective action that the PNNL Cost Analyst review more files and discuss the adequacy with the

contract managers. PNNL has not sufficiently identified the root cause of inadequate cost/price analyses and, therefore, the resulting corrective action is not meaningful. PNNL continues to question the results of independent reviews in this area (including those performed by RL).

Root Cause Analysis. PNNL's root cause analyses were not sufficient and did not provide the basis for meaningful corrective actions. With respect to cost/price analysis, PNNL's corrective action plan does not identify a root cause or meaningful corrective action (see Independent Reviews above). Unless the root cause is identified, meaningful corrective action(s) cannot be identified and problems will continue. As another example, the BSS report identifies a deficiency with respect to technical evaluations. The root cause discussion is not focused and conflicts with the corrective action plan. The root cause discussion states, "The proposal cover letter to the Technical Administrator requesting a technical evaluation was reviewed and found to clearly and succinctly identify the type of information and depth of review necessary." The report then states as a corrective action, "The proposal cover letter requesting a technical evaluation will be revised to address the importance of a quality and detailed technical review...."

3. **Financial Perspective**

   No comments.

4. **Learning and Growth Perspective**

   PNNL has met their objectives for this area of the BSS. PNNL's staff was very satisfied with their management and the procurement organization as a whole. PNNL, in particular, has made information available to the staff.

V. Strengths

1. The purchase card system is a very strong asset, and will continue to be a greater asset, given time to further develop the system and educate the users. The P-card electronic system of reconciliation was of particular interest. The system simplified the reconciliation process.

2. PNNL appears to disseminate information to their staff in a timely manner, updating constantly their own internal guidelines and procedures by utilizing Intranet capabilities.

VI. Weaknesses/Recommendations

1. Section III, Corrective Action Plans, of the 1998 BSS did not address concerns raised by RL in the 1997 BMOP Review Report and did not address the status of corrective actions that PNNL identified in their own 1997 self-assessment. The 1998 self-assessment report includes new concerns and corrective action plans; however, there is no evidence that the corrective actions previously identified actually resolved the concerns identified in previous years. Some of the "new" concerns identified appear to RL to be internal control problems similar to those identified in 1997.

   Recommendation: PNNL needs to include as part of the BSS a section which addresses the previous years concerns or issues and the status for resolution of the concerns or issues raised from the previous year.

   PNNL Corrective Action: Future reports will address the status/resolution of corrective actions from the previous year. This is an apparent weakness in the Balanced Scorecard report that was submitted to RL.

2. Inadequate technical evaluation of proposals was identified as a recurring problem. PNNL's corrective action was to put more pressure on the contract specialists to get better evaluations from their customers (the program offices). This may only address part of the problem and not the primary root cause. PNNL also needs to emphasize and/or educate its customers about the importance of good technical evaluations.

   Recommendation: PNNL Senior Management (at a level higher than the Contract Manager) should formally communicate to its customers the importance of adequate technical evaluation of cost proposals. This must have support from the customer's management.

3. Price analysis continues to be a problem at PNNL. The Cost/Price function and the Contract Managers apparently have different views of what is an adequate price analysis. This inconsistency, of itself, may indicate another root cause.

   Recommendation: Recurring problems in performing cost/price analyses should be identified, and substantive root cause analysis performed. RL may need to provide guidance, if interpretation of Federal and DOE regulation or policy is one of the root causes of the deficiencies.

4. Sole source justifications lacked clear defined explanations for not obtaining competition. More attention to pertinent detail is needed in future sole source justifications.

Recommendation: For sole source procurement actions, improvement needs to be made in preparing and reviewing the justifications. Vendor or product familiarity, of itself, is not a sufficient basis for the sole source justification.

PNNL Corrective Action: This will be an area for improvement in the coming year and a corrective action plan will be developed. We agree with DOE that there needs to be improvement in the adequacy of the sole source justifications.

VII. Future Considerations

This category identifies areas, which PNNL should review. The recommendations provided below are intended to assist PNNL in providing an acceptable package to RL for future reviews.

1. PNNL should incorporate historical data to enable performance trend analyses so PNNL management can determine that corrective actions actually are effective and understand the rationale for statistical deviations.

   PNNL's Response: The effectiveness of corrective actions is reviewed during the Annual Surveillance and is specifically commented on in the individual review reports. These comments were not included in the 1998 BSS report. Future reports will contain such a section.

2. PNNL, as an action out of the Balance Scorecard, should develop a Corrective Action Plan to review and respond to negative comments received. Such comments should be evaluated, and appropriate measures should be taken by management to resolve any issues or concerns, which have purchasing system impact.

3. A suggestion for the future, is to capture the dollar amounts associated with P-Card transactions instead of only measuring the percentage of transactions. In addition, PNNL must validate that the P-card system has adequate internal control. If PNNL has previously accomplished this validation, it should be included in the BSS report to support the conclusions derived.

4. The cycle times reflect when the purchase request was issued, not when the actual acquisition began. While it is true the actual acquisition does not begin until there is funding, the truth of the matter is the acquisition has begun if planning, organization,

   and scoping meetings have occurred for the sole purpose of placing a contract. Our recommendation is for PNNL to revisit their definition of cycle time and redefine its meaning.

   PNNL Response: We will redefine this measurement and integrate it into our FY 1999 plan, which is scheduled to be submitted by December 31, 1998.

5. Under adjective rating, attention is needed to tighten down the percentages, an 85-100% should not be "outstanding," that is too large of a percentage margin, particularly when the next level of "excellent" goes to 70%. We do not consider a 70% standard as excellent, nor is there a meaningful difference between the "outstanding" and "excellent" adjectives as they are synonymous.

   PNNL Response: We agree that the adjective rating scale for the 1998 BSS plan was set somewhat low as a result of having little if any historical basis for judging past performance on the defined measures. We agree that these should be tightened and will propose the scale for the 1999 BSS plan as:

   95-100 = Outstanding
   85-94.9 = Excellent
   75-84.9 = Good
   65-74.9 = Marginal
   <65 = Poor

   RL Comment: Recommend that the adjective ratings of "Poor" be changed to "Unsatisfactory" for the 1999 BSS plan.

6. PNNL needs to improve the communication with user organizations. This can be accomplished by enhancing the customers understanding of the purchasing system requirements and by improving the statusing of specific procurement actions.

VIII. Performance Rating

"Good (with an explanation) and a rating score of 2.5" – Previous to this review PNNL and RL had agreed to the established metrics and scoring system. However, during the review of the Balance Scorecard Plan and the corresponding self-assessment report, RL found areas of weakness, which were not otherwise covered by the self-assessment, or were not adequately addressed in the self-assessment report. This led us to select a rating and score, which more accurately reflected the evaluated level of performance. While the performance was not at the level of "outstanding" as represented by PNNL, the performance was not at the level of "marginal" either. Therefore, the "satisfactory" rating provided in the draft review report was changed to "good" with an explanation.

PNNL has several strengths; however, several items, which surfaced during the review, have caused some concern in the areas outside the self-assessments performed by PNNL. For instance, files reviewed were not complete, sole source justifications lacked clear definition, significant deficiencies in price analysis identified in prior reviews continued, and internal controls were inconsistently applied.

The BSS report does not specifically address the majority of system requirements of the prime contract (DEAR 970.5204-22), and when it does, the analyses are not sufficient to demonstrate what was evaluated, how the evaluation was performed, what were the results, and what conclusions were logically derived. In addition, the report does not demonstrate that management controls have been sufficiently tested by independent review as required by the prime contract (DEAR 970.5204-20). Accordingly, PNNL must ensure that future purchasing system reviews are performed with sufficient independence and in a comprehensive manner, which reflects adequate detail and support for the conclusions.

Department of Energy
Washington, DC 20585

November 19, 1998

Robert M. Rosselli
Assistant Manager for Science and Technology
U.S. Department of Energy
Richland Operations Office
825 Jadwin Avenue
Richland, WA 99352

Dear Mr. Rosselli:

For fiscal year 1998, the Pacific Northwest National Laboratory's overall performance on Office of Energy Research (OER) science and technology programs is rated as Outstanding. This rating relates to the scale that includes Unsatisfactory, Marginal, Good, Excellent, and Outstanding. It is a weighted average of performance evaluations provided by each OER program office, with the budget for Pacific Northwest from each office as the weighting factor. This summary rating combines overall performance evaluations for program areas supported by the OER offices of Basic Energy Sciences, Biological and Environmental Research, Computational and Technology Research, and Fusion Energy Sciences.

Although the overall rating is Outstanding, there are several concerns mentioned by the Office of Basic Energy Sciences. One addresses the laboratory's complex management structure; another questions whether the Laboratory's Customer Feedback Survey is appropriate for the appraisal of fundamental scientific endeavors. These concerns may provide the basis for a useful discussion about the appropriate measures for basic research as compared to more applied and time-driven research. Finally, there is concern over the length of time for implementation of Cooperative Research and Development Agreements (CRADA's).

Enclosure 1 summarizes the overall OER weighted average ratings by each goal. Enclosure 2 presents the individual OER Programs' ratings of the laboratory's performance for each of the performance evaluation factors. Also enclosed are full narrative evaluations from each program area.

Sincerely,

Martha Krebs

Martha A. Krebs
Director
Office of Science

Enclosures

OFFICE OF ENERGY RESEARCH
FY 98 PACIFIC NORTHWEST NATIONAL LABORATORY EVALUATION

Enclosure 1:

FY 98 OER WEIGHTED AVERAGE RATINGS BY GOAL:

Overall Consolidated Rating: Outstanding

Goal: 01 Quality of science, technology and engineering

Consolidated Rating: Outstanding

Goal: 02 Relevance to national needs and agency missions.

Consolidated Rating: Outstanding

Goal: 03 Effective and efficient Research Program Management

Consolidated Rating: Excellent

Goal: 04 Performance in the operation and construction of major research facilities

Consolidated Rating: Outstanding

Enclosure 2:

PACIFIC NORTHWEST NATIONAL LABORATORY
FY 98 RATINGS OF EACH GOAL BY EACH OER PROGRAM
G = Good; E = Excellent; O = Outstanding

	Goal 1: Quality	Goal 2: Relevance	Goal 3: Program Mgt.	Goal 4: Facilities		Overall Program Rating	Overall ER Weighted Average
BES	E	O	E	N/A		E	
BER	O	O	O	O		O	
CTR	E	O	E	N/A		E	
Fusion	O	O	O	N/A		O	
OVERALL	O	O	E	O			O

PACIFIC NORTHWEST LABORATORIES

Aristides Patrinos

Broido Goal 01: Indicator 01 score 3.7
Under the direction of the ARM Project Office, the ARM program has earned a national reputation for excellence. The Southern Great Plains ARM site is being used by both DOE-supported and other agency-supported researchers. The ARM program has been exceptionally innovative in developing state-of-the-art instrumentation for use by the climate community. Similarly, PNNL has provided outstanding leadership in climate modeling.

PNNL is a recognized world leader in bioremediation and has an outstanding interdisciplinary staff of microbiologists and geochemists who have made significant contributions to the field.

They have effectively teamed within their organization, with outside university investigators and other lab personnel to perform some breakthrough research in bioremediation. PNNL is also recognized for its work in subsurface research.

Integrated assessment activities are also of very high caliber, including so truly seminal work in the field.

Broido Goal 02: Indicator 01 Score: 4
The ARM program is attacking the uncertainty in predicting climate change that addresses a major DOE mission and national issue. This group has made a strong contribution responsive to the climate prediction problem by bringing cooperation and substantially increased research depth to the teams of principal investigators in ARM. For both ARM ad climate change prediction, interagency contacts are actively pursued, and the mission needs of the program/department treated with primary importance.

Bioremediation research has been highly relevant to the NABIR goals and objectives. PNNL's research efforts, particularly those associated with NABIR and the EMSP are of great importance to OBER and DOE in general. The research efforts are on target for answering some fundamental science questions that DOE needs before moving forward with environmental remediation efforts. A FY 1998 PNNL proposal to educate and involve students in environmental sciences research is important.

With regard to the new environmental meteorology program, PNNL activities show great promise for innovative, collaborative science that is extremely relevant and timely to both DOE and broader interagency missions.Broido Goal 03: Indicator 01 Score: 3.7

The ARM Project Office has exceptional, dedicated personnel who are focused on the success of the project. Working with personnel from participating laboratories, the Project Office has maintained schedules within budget. In climate modeling, milestones met as well as possible given high degree of uncertainty in program funding and objectives.

Overall, management of NABIR projects seems to be efficient. The staff have worked very well with NABIR program managers and perform research in a timely manner; activities in support of UMTRA site use by NABIR have been particularly effective. While timeliness in meeting milestones has been quite good for most activities, there has been some distraction due to pressures from the Vadose zone activities.

In environmental meteorology, the PNNL -leadership role has folded in efforts and talent at ANL, BNL, and LANL, and has developed very healthy collaborative/complementary relationships with NOAA and NCAR.Broido Goal 04: Indicator 01 Score: 3.8

PACIFIC NORTHWEST LABORATORIES

Aristides Patrinos

The ARM facilities are nationally recognized for their scientific importance. Much of this recognition is based on the exceptional operation of the sites. G-1 operations in support of scientific missions have also been of very high caliber.

Under the leadership of the interim director of EMSL, EMSL management did an outstanding job of managing this facility during its "rookie" year. The EMSL made great progress in attracting users, and numerous efforts were made to promote this new DOE user facility within the broad scientific community. While much of this success is due to the efforts of many others at PNNL, Dr. Teresa Fryberger's leadership must be acknowledged explicitly, especially so in light of the many management changes within the EMSL. The successful operation of the EMSL was also illuminated during the March 1998 peer review; the reviewers were favorably impressed!

Management of GPP and GPE funding is also of high caliber, as based on observations at the Integrated Safety Management review in June 1998, interactions with managers at PNNL directly responsible for facilities management, and interactions with Richland Operations Office staff who oversee PNNL's facilities management activities.

Frazier Goal 01: Indicator 01
Research to understand structural and functional aspects of nucleotide excision repair and the development of mass spectroscopy as a tool for the detection and characterization of small DNA molecules are currently undergoing recompetition. Both projects have made good use of resources at PNNL. In particular, the PI of the mass spectroscopy research has consistently been recognized as a leader in the field.

A new project in microbial genomics was newly funded in FY 1998 following successful peer review. It is too soon to judge the overall scientific quality of the project.

Frazier Goal 02: Indicator 01
The outcome of ongoing reviews of the structure/function and mass spectroscopy projects will determine their overall relevance to the DOE mission. Microbial genomics research is highly relevant to current DOE needs.

Frazier Goal 03: Indicator 01
Overall, program managers at PNNL have been very diligent in their efforts to ensure that PNNL research plans and proposals are responsive to current and future DOE needs. However, their success in implementing these plans has been highly variable. Future reviews and progress in currently planned initiatives will determine PNNL success in this area.

Frazier Goal 04: Indicator 01
Not applicable.

Viola Goal 01: Indicator 01
PNNL shows outstanding scientific leadership and productivity in mass spectrometry, nuclear magnetic resonance spectrometry and microscopy and automated analytical chemistry.

Viola Goal 02: Indicator 01
Basic science projects are assisting in solving environmental problems

Viola Goal 03: Indicator 01 Program management
No evaluation provided by SC-73

PACIFIC NORTHWEST LABORATORIES

Aristides Patrinos

Viola Goal 04: Indicator 01
No evaluation provided by SC-73

PACIFIC NORTHWEST LABORATORIES

Patricia M. Dehmer

Dehmer Goal 01: Quality of Science -
Score: EXCELLENT

Of the several programs supported by the Chemical Sciences Division two are specifically focused upon basic research activities that are directly related to environmental 'clean-up' issues. The two programs, one experimental and one theoretical, have made excellent progress toward maturation as measured by reviews and external recognition. Experimental research includes interfacial chemistry of water-oxide systems, near-field optical microscopy of single molecules on surfaces, inorganic molecular clusters, and direct photon and/or electron excitation of surfaces and surface species. Programs in analytical chemistry and in applications of theoretical chemistry to understanding surface catalysis are also supported by the Chemical Sciences Division; included are high-resolution laser spectroscopy for analysis of trace metals on ultra small samples, understanding the fundamental inter- and intra-molecular effects unique to solvation in supercritical fluids, and interfacing theoretical chemistry with experimental methods to address complex questions in catalysis. Theoretical, ab-initio quantum molecular calculations are integrated with modeling and experiment. The scientists associated with the technical programs are, in many cases, internationally recognized for their contributions to investigating and understanding the remarkably complex phenomena involved in environmental 'clean-up'.

The BES/Materials Sciences Division supports research on stress-corrosion cracking of metals and alloys, high-temperature corrosion fatigue of ceramic materials, and irradiation effects in ceramic materials relevant to radioactive waste containment. Based on an overview presentation led by Dr. McVay and some of his investigators at DOE Headquarters in March1998 and the PNNL site visit by BES staff in August 1998, the BES/Materials Sciences staff concludes that the quality of science under the Metal and Ceramic Sciences program at PNNL is outstanding. This research has been characterized by innovation, originality and creativity. Given below are several accomplishments and honors in support of this judgment:

-Studies under Dr. Bruce C. Bunker on the model oxide TiO_2 showed that the mechanism by which ionizing radiation damages oxide surfaces is by removing oxygen and reducing titanium to create reactive surface defects. When water is present, the water reacts with the defects to regenerate the original surface, and in this case, radiation damage has no net impact on waste properties. If organic species are present, however, this work showed that these organics can be adsorbed on the reactive defects. In this case, the active site can decompose the organic, producing both flammable gases and strongly-bound organic species that modify the surface chemistry of the particle.

-Further work under Dr. Bunker developed a fundamental understanding of how dissolved salts influence the interactions between particles, (such as those comprising tank sludge). In the high-salt, high-pH regime the electrical double layers associated with charged surface sites collapse, leading to extensive agglomeration. Even though the particles stick to each other, this work under Dr. Bunker showed that the strength of interparticle interactions, which control properties such as sediment compaction, can be modified by the presence of layers of hydrated cations adsorbed on oxide surfaces. It was shown that these so called hydration forces can be modified to change sediment densities by a factor of at least three.

-The discovery that additions of tin improve the superplastic behavior of aluminum also overturned the conventional viewpoint that tin is a harmful alloy solute in aluminum. The amount of tin solute and the thinness of the layer of tin which may be precipitated at the grain boundaries of the solvent aluminum as a consequence of a carefully controlled heat treatment must both be

carefully controlled. The ability to superplastically form aluminum alloys makes them very attractive for PNGV and other automotive applications.

-Interactive experimental and computer simulations have developed a fundamental understanding of defect production, amorphization, and defect recovery processes in silicon carbide (SiC). The temperature dependence of amorphization was modeled in terms of a single-activated process. Recovery behavior was elucidated by isochronal and isothermal annealing studies. Point defect recovery processes on the silicon sub-lattice were observed below room temperature with an activation energy of the order of 0.5 electron-volts. In general, complete recovery of the point defects on the silicon sub-lattice can occur at room temperature. These studies showed that amorphization in SiC occurs primarily by a defect accumulation process that is controlled by defect thermal recovery processes which take place near room temperature.

-A very effective method for synthesizing hybrid mesoporous materials, which incorporate organized monolayers of functional molecules covalently bound to the mesoporous support. The functional molecules are attached to the mesoporous support in a manner that is similar to that used in the preparation of self-assemble monolayers on flat substrates. The approach involves careful control of both hydrolysis and condensation chemistries at the interface, in order to ensure formation of high-quality monolayers and to avoid bulk polymerization in the pore channels. Systematic variation of the population densities of functional groups on the mesoporous materials is possible from 10% up to 100% of the full surface coverage. The molecular conformation of the layers has been established. At low surface coverage, the carbon chains can adapt a side range of conformations, as indicated by a single broad 13C NMR resonance attributed to the two carbon atoms next to the thiol chain terminating group. This research won a 1998 R&D 100 Award (see below) and was also selected as a finalist for the 1998 Discover Magazine Technology Innovation Award.

The BES Geosciences program supports excellent research on basic theoretical and experimental geochemical research that underpins technologies important for the Department's environmental missions and research to improve our understanding of the phase change phenomena in microchannels.

Principal investigators at PNNL funded by BES win major prizes and awards sponsored by professional societies and by others; in addition, many are elected to fellowship in major scientific professional societies and other organizations. For example, in FY 1998 Jun Liu , Glen E. Fryxell and Gregory J. Exarhos received an R&D 100 Award from R&D Magazine; Gregory J. Exharos was also elected Fellow of the American Ceramic Society, and he received the Society's Long-Term Service Award; in addition, Gregory J. Exarhos was elected the Chairperson of the Long Range Planning Committee of the American Vacuum Society; Kenneth M. Beck was elected Fellow of the National Science Foundation/Japanese Science Technology Agency; Russell H. Jones was elected Fellow of the American Society for Metals; Robin S. McDowell was appointed Titular Member of the Commission on Molecular Structure and Spectroscopy of the International Union of Pure and Applied Chemistry; and, Lai-Sheng Wang received a Distinguished Professorship from Westinghouse.

Dehmer Goal 02: Relevance to DOE Missions or National Needs:
Score: OUTSTANDING

A major technical concern and mission that is a critical national need is the required 'clean-up' of facilities previously involved with nuclear weapon production. The PNNL Chemical Sciences programs address fundamental scientific issues that require understanding and clarification to assure that future technical approaches to the mitigation of waste have an assured scientific

Patricia M. Dehmer

base.

Materials Sciences programs at PNNL under Dr. Gary McVay have encouraged and cultivated very effective interactions of their highly competent scientific staff with Environmental Management, Energy Efficiency, Fusion Energy and Nuclear Energy programs, as well as with researchers at other DOE laboratories and with the private industrial sector under the Office of Basic Energy Sciences distributed Center of Excellence for the Synthesis and Processing of Advanced Materials. The scientific staff under Metal and Ceramic Sciences have continued to make outstanding progress in critical environmental problems such as the potential instability of highly concentrated slurries in chemical and nuclear waste tanks, the rapid forming of light-weight aluminum alloy parts for fuel-efficient automobiles and aircraft, and silicon carbide as promising candidate material for fusion energy applications. An effective partnership was formed with the Electric Power Research Institute in irradiation assisted stress corrosion cracking, which is presently an issue of critical importance with respect to renewal license applications for on-line but aging commercial nuclear power reactors. These considerations warrant a rating of outstanding for the Materials Sciences programs at PNNL.

Dehmer Goal 03: Effective and Efficient Research Program Management:
Score: EXCELLENT

The laboratory is responsive to DOE needs and concerns but management structure seems to be quite complex with multiple lines of management associated with programs.

While the management of the Materials Sciences programs at PNNL has been outstanding, we note that the Laboratory has developed a Customer Feedback Survey for its scientific programs under Materials Sciences that is totally inappropriate for the appraisal of fundamental scientific endeavors. The survey seems designed for the purchase of a product or service (with questions relating to delivering the product/service on time, delivering cost-effective product services, delivering products that meet expectations for quality, providing new technologies, cost savings and cost avoidance, and bringing together industrial partners, etc.) and does not relate to the important parameters for scientific research or the climate for its successful undertaking. The survey fails to get at or in any way recognize the value of either new discovery, understanding or insight. Criteria such as innovation, creativity, advancing the frontier of understanding, etc. do not emerge in this survey, nor does this survey address the climate and management of scientific research that is conducive to the new discovery process. We all know that as a consequence of GPRA it is necessary for all of our laboratories and program managers to develop and work with performance metrics. I think that we all—not just the Office of Quality at PNNL—need to give more thought to the performance metrics that are appropriate to the scientific discovery process. Using innappropriate questions and criteria could have an adverse impact on the future health of science.

Dehmer Goal 04: Success in construction and operation of facilities

Does not apply to BES. Although BES does not provide funds for the EMSL, the staff supported by Chemical Sciences is physically located within the EMSL. The technical capabilities of the Laboratory are excellent and will provide very important experimental support for the research programs.

PACIFIC NORTHWEST LABORATORIES

N. Anne Davies

Office of Fusion Energy Sciences

GOAL: 01 Quality of Science
Reviewer Wiffen: PNNL continues to contribute research of the highest quality in the program to develop fusion materials. They provide cutting edge research on silicon carbide composite materials, and also provide important contributions to all the materials program elements. Steady progress is being made on all advanced materials programs tasks. The overall quality of work on the fusion materials program is outstanding.
Score: 3.6 --Outstanding Davies Goal 02: Indicator 01

GOAL: 02 Relevance to DOE missions or national needs
Reviewer Wiffen: The Advanced Materials Program is a key element of the US Fusion Program. PNNL continues to focus efforts on the most important tasks of the Fusion Materials Program. They are responsive to DOE and to fusion community input and planning in setting the direction of their work.
Davies Goal 03: Indicator 01

GOAL: 03 Effective and efficient research program management
Reviewer Wiffen: PNNL has taken increasing responsibility in leading the US Materials Program for SiC/SiC Composite materials and in managing the DOE/Monbusho (US/Japan) collaborations on fusion materials. They continue to perform in superior manner in these roles. PNNL took the lead in developing and presenting materials on the composite materials program element for the FESAC Panel review of the program.

They have made important contributions to a planning exercise that will lead to a roadmap for the Fusion Materials Program, as well as to a new planning activity for a possible program redirection that will put greater emphasis on theory/modeling and integration with the experimental program.
Score: 3.6 --Outstanding

Goal 04: Indicator 01
Not Applicable

PACIFIC NORTHWEST LABORATORIES

David B. Nelson

Goal 01: Quality of Science

Rating Prepared by: Thomas Kitchens, Program Manager, MICS Division, ER-31
Activity being Evaluated: Grand Challenge in Computational Chemistry.
This program is a mature research effort. Among other tasks, the project has developed a Computational Quantum Chemistry code NWCHEM and several scientific applications of this system. The project has shown originality and creativity. The effort is now over six years old and has provided sustained achievement.
Rating: Outstanding 3.5

Goal 01: Quality of Science
Rating Prepared by: Mary Anne Scott, Program Manager, MICS Division, ER-31
PNNL is involved in several projects that were initiated under the DOE2000 program. Specifically, they support several R&D projects-electronic notebooks, collaborative session management, and collaboratory interoperability framework. All these efforts involve integrated activities across multiple laboratories and organizations. Their work is outstanding and the contribution to the MICS program in their respective areas is very valuable. Their commitment to the concept and implementation of collaborative technology is clear by virtue of applying their experience to a shadow pilot collaboratory-the EMSL Collaboratory. Their work is excellent and their contribution to the enabling tools for collaboratories is outstanding. They are well recognized in the field of collaborative technologies.
Rating: Outstanding 3.9

Goal 02: Relevance to DOE Missions or National Needs
Rating Prepared by: Thomas Kitchens, Program Manager, MICS Division, ER-31
Activity being Evaluated: Grand Challenge in Computational Chemistry.
The main thrust of his project is to address the DOE mission in environmental management by advancing fundamental science to solve some of the nation's radioactive waste issues.
Rating: Outstanding 3.5

Goal 02: Relevance to DOE Missions or National Needs.
Rating Prepared by: Mary Anne Scott, Program Manager, MICS Division, ER-31
Partnering across science and technology programs is an important element to the structure and goals of the MICS program that supports these projects. PNNL fully supports this partnering and provides effective championing of this goal within the broader community. Under the electronic notebook, the goal is to design a modular, extensible notebook architecture and define a base set of notebook functionality. The acceptance and value of the work is attested to by the large number of users who have adopted the early reference implementation of the notebook for use and by the interest of the Collaborative Electronic Notebook Systems Consortium, with their efforts to create and expand the markets for scientific laboratory software.
Rating: Outstanding 3.9

Goal 3. Effective and Efficient Research Program Management
Rating Prepared by: Thomas Kitchens, Program Manager, MICS Division, ER-31
Activity being Evaluated: Grand Challenge in Computational Chemistry.
The program has been well managed over the complete length of the project.
Rating: Outstanding 3.5

Goal 3. Effective and Efficient Research Program Management
Rating Prepared by: Mary Anne Scott, Program Manager, MICS Division, ER-31
These projects involve planning across multiple organizations. This is done well and appropriate milestones have been met. From a management perspective, they have shown leadership in promoting a cohesive collaboration environment across the R&D projects and the pilot collaboratories. Their activities are a positive contribution and they have also made important contacts in the

research community outside of DOE who are pursuing R&D in the same or similar areas.
Rating: Outstanding 3.9

Goal 04. Success in Construction and Operation of Facilities
Rating Prepared by: Thomas Kitchens, Program Manager, MICS Division, ER-31
Activity being Evaluated: Grand Challenge in Computational Chemistry.

The project was only indirectly involved in setting specifications for the EMSL building that houses the project.

Goal 04. Success in construction and operation of facilities
Rating Prepared by: Mary Anne Scott, Program Manager, MICS Division, ER-31
Not applicable

RATING PREPARED BY SAM BARISH, AEPTR Division, ER-32
Goal: 01 Quality of Science
Indicator: 01 Impact of scientific contributions.
Pacific Northwest National Laboratory continues to be a first rate scientific establishment. PNNL proposals for new multi-year projects, to the Laboratory Technology Research (LTR) program, fared very well in FY 1998. More proposals passed the external peer review than the LTR program had funds to support. This year, three PNNL multi-year projects were subjected to a mid-program peer review. Indications are that the reviews were favorable, with complete agreement that the science is first rate.

One high-quality LTR project, initiated in FY 1995 and funded through FY 1998, has resulted in a successful link with another program. The project, entitled "Vehicle Exhaust Treatment Using Electrical Discharge and Materials Chemistry," has been conducted by PNNL and an industry partner, USCAR (a consortium consisting of Ford, General Motors, and Chrysler). This project was merged with another Cooperative Research and Development Agreement (CRADA) into a DOE-EE Transportation Technologies funded program, which had contributions of $1.3 million to the amended CRADA in FY98 and FY99, along with USCAR's additional contribution of $2.09 million.
Rating:- 3.0/Excellent

RATING PREPARED BY SAM BARISH, AEPTR Division, ER-32
Goal: 02 Relevance to DOE missions or national needs.
Indicator: 01 Impact of laboratory R&D on mission needs of DOE and other agencies funding programs.

PNNL's LTR research continues to make valuable contributions to DOE mission objectives. First class research on each multi-year LTR project meets at least one DOE mission need. A good example is a PNNL project, entitled "Processing Property Relationships in Centrifugally Cast Aluminum Metal Matrix Composites," performed in collaboration with General Motors. This project has helped to develop strong, lightweight components for automobiles. This technology will enhance the energy efficiency of automobiles, a long-standing DOE mission goal.

PNNL also conducts a very active rapid access program by providing the expertise of ORNL researchers to industry. PNNL has been very responsive in solving difficult technical problems of many local and national companies. PNNL has been the clear leader of all the ER laboratories in this activity.
Rating:- 4.0/Outstanding

RATING PREPARED BY SAM BARISH, AEPTR Division, ER-32
Goal: 03 Effective and efficient research program management.
Indicator: 01 Programmatic Performance and Planning.

PACIFIC NORTHWEST LABORATORIES

David B. Nelson

PNNL makes a very strong effort in carrying out its research goals in a timely fashion. However, the unique nature of the CRADA, and the resultant negotiations required to implement CRADAs, make a rigorous timetable difficult to maintain. PNNL could improve its CRADA negotiation process, which would result in less delays in beginning research projects. Nevertheless, the PNNL LTR office has been very responsive to the requests from DOE headquarters concerning conduct of the LTR program.
Rating:- 2.5/Good

RATING PREPARED BY SAM BARISH, AEPTR Division, ER-32
Goal: 04 Success in construction and operation of facilities.
Indicator: 01 Success in meeting construction schedules and cost objectives, facility performance specifications, and user availability goals.

Does Not Apply

Appendix 3

Department of Energy
Washington, DC 20585

November 9, 1998

MEMORANDUM FOR ROBERT M. ROSSELLI
ASSISTANT MANAGER FOR
SCIENCE & TECHNOLOGY
RICHLAND OPERATIONS OFFICE

SUBJECT: Performance Evaluation of Battelle for the Management and Operation of the Pacific Northwest National Laboratory (PNNL) for Fiscal Year 1998

In response to your October 15, 1998 memorandum, I am forwarding input which was provided to me by the Office of Declassification. The Office of Security Affairs appreciates the opportunity to comment on PNNL's organizational effectiveness.

Joseph S. Mahaley
Director
Office of Security Affairs

Attachment

Department of Energy
Germantown, MD 20874-1290

NOV 05 1998

MEMORANDUM FOR JOSEPH S. MAHALEY, DIRECTOR
OFFICE OF SECURITY AFFAIRS

FROM: A. BRYAN SIEBERT, DIRECTOR
OFFICE OF DECLASSIFICATION
OFFICE OF SECURITY AFFAIRS

SUBJECT: Call for Headquarters Final Performance Evaluation of Battelle for the Management and Operation of the Pacific Northwest National Laboratory for FY 1998

In response to the October 15, 1998, memorandum from Mr. Robert M. Rosselli, Assistant Manager for Science and Technology, Richland Operations Office, subject as above, the following input is submitted from the Office of Declassification:

Technical Guidance Development - During the process of revising the Classification Guide on Nuclear Material Production, CG-NMP-1, in August 1998, technical expertise was provided by Pacific Northwest National Laboratory (PNNL). The classification officer and staff exhibited an understanding of the key relevant issues and contributed directly to its content. The support rendered on this specific effort and throughout FY 1998 to the Technical Guidance Division can only be described as GOOD.

Openness Initiative Support - During FY 1998 OUTSTANDING support to the Office of Declassification was rendered by PNNL as it further implemented the DOE Openness Initiative. PNNL assisted the Secretary of Energy Advisory Board Openness Advisory Panel during the conduct of its site tour and public meeting held in February 1998 in Richland, Washington. Dr. Richard Meserve, Chairman, expressed his appreciation to the staff of PNNL's Hanford Declassification Project (HDP) for the briefing on their operation and commended them for the excellent work they were accomplishing. During FY 1998 the HDP reviewed more than 4,200 documents (over 171,000 pages) for declassification. As a result of this effort, a large amount of previously unavailable documents are being provided to the public. This project is exceeding all expectations, with exceptional quality, and accomplished within budget. The HDP provides exceptional service in support of litigation involving classified records concerning programs at Richland. HDP also

sent individual document reviewers to Rocky Flats Field Office, Los Alamos National Laboratory, Mound, and Savannah River Operations Office to increase understanding of classification issues of mutual concern. PNNL also supported the Hanford Openness Workshops with briefings on new technology being brought to bear on the problems associated with declassification reviews. In sum PNNL support of the DOE Openness Initiative has been **OUTSTANDING**.

Appendix 4

HQ Final Performance Evaluation of Battelle for the Management and Operation of the Pacific Northwest Laboratory

I rate the group of PNNL managers and staff involved in the Northwest Alliance for Transportation Technologies (NATT) program in 1998 as Outstanding. I specifically cite Gary McVay, Ed Courtright, Russ Jones, Mark Smith, Mohamed Khaleel, and Tony Hess for efforts leading to the filling out of NATT's initial portfolio of projects under OAAT's Lightweight Vehicle Materials effort. This was essentially accomplished by the middle of FY 1998 from almost a standing start in FY 1997, and though it involved some arduous and sometimes frustrating interactions with the U.S. auto OEMs and their suppliers, was done with grace. PNNL is particularly to be commended for maintaining a national and professional focus of priorities despite the political and regional nature of NATT. Besides the technical managers above, Wendy Stigman and Marie Jiminez should also be recognized for their administrative support.

Joseph A. Carpenter, Jr., 11/06/98
Program Manager, Lightweight Vehicle Materials
DOE Office of Advanced Automotive Technologies

Automotive News®

OCTOBER 26, 1998 $104/YEAR; $3/COPY

news

Republic wants more partners

Republic Industries Inc. plans more partnerships with Ford Motor Co. like the Ford Retail Network in Rochester, N.Y., and Republic may explore similar concepts with other manufacturers, according to Republic CEO Michael Karsner.

In Rochester, Ford is buying out and consolidating eight Ford stores and one Lincoln-Mercury dealership. Ford will ... percent of the ... Republic will ... the dealerships ...

"We have identified markets with Ford ... probably do," said ... a conference for Wall ... analysts in New York ... week. Republic is the largest dealership gro...

Karsner said: "You ... several types of deals ... other manufacturers."

see LATE NEWS, ...

Aluminum shines at Ford

Mid-sized sport wagon will go on sale in 2002

MARY CONNELLY
and DAVID SEDGWICK
Staff Reporters

DETROIT — Ford Motor Co. plans to build an aluminum-intensive mid-sized sport wagon in large volume in 2002.

The new vehicle will include design elements of a car, minivan and sport-utility, but will ride on a car platform, according to two sources familiar with Ford's plan.

The multiactivity vehicle, code-named D219, will be built at Ford's Rouge complex in Dearborn, Mich. Ford will begin building the sport wagon in mid-2002 for the 2003 model year, the supplier sources said.

According to a vendor who is bidding to supply D219, the vehicle will be based on the Mondeo platform.

The new vehicle is targeted primarily at North America, with planned volumes above 100,000 in the first year and 200,000-plus in the second year, one supplier said. Other sources agreed it will be a high-volume vehicle, but were unable to confirm production figures.

PROVING THEIR METAL

Chrysler eyes mixed approach ➤ 56
Ford praises Alcoa hybrid ➤ 58

Breaking new ground

Ford's innovative sport wagon for the 2003 model year will:

- Blend car, minivan, sport-ute design elements
- Be a high-volume model, not a niche vehicle
- Use larger amounts of aluminum
- Be sold in North America, with possible exports

Other potential markets include Europe, South America and Asia.

Ford public relations declined to comment.

see FORD, 56

Plan enrages
d

...otors to ...utive at ...d mem... ...ervisory Wilhelm ...esign in ...ompany reached

about a ...wger to ...ist four months as Opel chief executive and replace him with Peter Hanenberger, GM's head of product development outside North America.

(PNNL/NATT)

Cudo's to Mark Smith who did not back down last year when Andy Sherman of Ford averred that "No U.S. Manufacturer has any interest in aluminum space frames for high-volume production vehicles."

Unmistakably LeSabre

Here is the first unofficial look at the redesigned 2000 Buick LeSabre, sans

A NEW SHINE FOR ALUMINUM

Chrysler favors mixed approach

RALPH KISIEL
Staff Reporter

DETROIT — Chrysler Corp. uses an aluminum frame and body panels in its Plymouth Prowler, but the automaker has little interest in producing a high-volume vehicle with an aluminum space frame.

Thomas Moore, general manager of Chrysler Liberty and Technical Affairs, does not nix aluminum altogether. Instead of using aluminum for a space frame, Moore said, Chrysler will selectively choose aluminum for components or body panels if it is the best material for the job.

A space frame is a skeleton of beams on which an auto's body panels are hung. Most cars use a monocoque, or shell structure, formed by welding stamped steel panels together.

Moore spoke at the 19th Automotive Aluminum Design and Fabrication Seminar in suburban Livonia, Mich., last week.

"Our objective at Chrysler is really to focus on the best available material for specific applications," Moore said. "We really don't want to make an aluminum car, an all-steel car, an all-plastic car, or whatever. What we want to do is pick the most promising material for each aspect of the vehicle."

Moore said that he hopes to continue this approach toward aluminum after Chrysler merges with Daimler-Benz AG in November.

Daimler-Benz has used aluminum and continues to evaluate it seriously, but Moore said he does not know whether Chrysler or Daimler personnel will lead aluminum research after the merger.

"We haven't had that kind of detailed technical dialogue," he said.

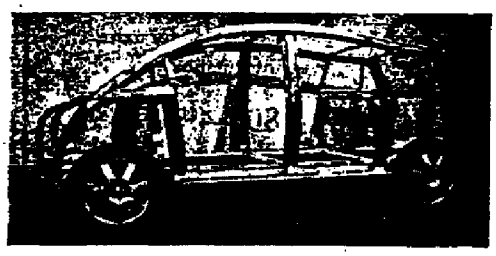
The cost of aluminum is Chrysler's primary obstacle to using more aluminum, Moore said.

A component made of aluminum costs up to twice as much as steel, he said. Aluminum is being used primarily because it is substantially lighter than steel, helping to reduce the overall weight of a car or truck.

The cost of aluminum is "99 percent of the challenge," Moore said.

"You can make a car out of it, it works well and it looks good, no doubt about it," Moore said. But it is very hard to imagine aluminum being economical today, he said.

Moore encouraged engineers at the conference to stick with Chrysler on its approach — using aluminum selectively. KN



When Alcoa displayed its aluminum frame last week, heads turned toward Ford headquarters in Dearborn. A skinned version, right, shows how a finished-out vehicle might look.

LEO BUCCELLATO PHOTOS

A-Mays-ing space frame sets forum abuzz

RALPH KISIEL
Staff Reporter

DETROIT — Ford Motor Co. plans to produce an aluminum-intensive sport wagon in 2002. So it was tantalizing last week when the company praised an Alcoa aluminum space frame for a "hybrid minivan/sport-utility" at an aluminum industry forum.

Is it the frame for the new vehicle? Or is it at least an early design direction for the sport wagon?

Ford said no. Alcoa called it just a "thought provoker."

Still, the frame has an intriguing history entwined with J. Mays, head of Ford's global design.

First, Mays and another Ford designer, Laurens van den Acker, designed the frame before they joined Ford, at SHR Perceptual Management, an independent design firm in Scottsdale, Ariz. Mays was there from 1995 until 1997.

Mays: A bit of history

Mays joined Ford Oct. 1, 1997, as vice president of design. Van den Acker is lead designer of Ford's Brand Imaging Group, having come from Volvo.

Now Mays and van den Acker praise the frame — as Ford plans to build an aluminum-intensive sport wagon.

Last Wednesday, Oct. 21, van den Acker subbed for Mays as part of a Ford presentation at the Automotive Aluminum Design and Fabrication Seminar in Livonia, Mich., a Detroit suburb. He told several hundred automotive design and manufacturing engineers that the frame is an example of how passionate automotive designs can be made from aluminum.

A space frame is a skeleton of beams on which an auto's body panels are hung.

An aluminum space frame is nothing new. The Audi A8 luxury sedan has one. The Alcoa space frame is unusual, though, because it can be used for various vehicles, not just passenger cars.

It provides the interior room of a minivan but is shorter than the Dodge Neon and Audi A4, said Jay Schultz, director of technology at Alcoa Automotive Structures International.

"People want more out of their SUVs than they are now getting," said Alcoa's Kenneth Ossola. "This is provocative. It shows what an aluminum space frame really can do."

Ossola is marketing manager of Alcoa Automotive Structures, which has been peddling the space frame to automakers for about a year.

Last week, Alcoa also displayed the space frame with a skin in Livonia to show how the finished vehicle could look. KN

FORD

High-aluminum vehicle scheduled to arrive in 2002

continued from PAGE 1

citing company policy not to discuss future products.

The vehicle would represent the industry's first use of aluminum in significant volumes. To date, aluminum has been used heavily on smaller-volume products, such as the Acura NSX, Audi A8 and Plymouth Prowler.

In recent years, Ford has demonstrated intense interest in aluminum as a weight-saving material. Both the F-150 pickup and Ford Taurus have aluminum hoods.

Ford went a step further in January, when it unveiled the P2000, an all-aluminum concept car based on the Mondeo platform. Although one supplier said D219 is a Mondeo variant, other sources were unable to confirm that.

In addition, the sources were unable to say if the D219 will feature the P2000's design innovations, or which components will be aluminum.

LIGHTER MEANS CLEANER

ide that may contribute to global warming.

Ford is struggling to comply with federal fuel-economy laws. In addition, Ford wants to lead in developing environmental technology under its chairman-elect, William Clay Ford Jr.

However, aluminum has disadvantages. It is expensive, costing up to twice as much as steel. It requires special welding machinery. Also, Ford would need to retrain body-repair technicians to fix damaged aluminum cars.

The D219 program will expand Ford's offerings of vehicles that blur the lines between cars, minivans and trucks. The automaker already has announced it will build a smaller sport wagon, code-named U204, in Claycomo, Mo., beginning in 2000.

Ford also has acknowledged it is building multiactivity vehicles from its Fiesta and Focus small-car platforms, although those products may not be offered in North America.

Opinions differ on Ford's choice of powertrains for the vehicle. Two suppliers with knowledge of the program say Ford plans to use a 2.5-liter Duratec V-6 engine as one powertrain option.

According to a third source, the D219 will be powered by a new family of engines to be built engines that includes a five-cylinder variant, according to one source familiar with the D219 and another source familiar with Ford's engine plans.

The automaker has confirmed it will launch a new engine at the plant, but has not released details.

ROUGE MAKEOVER

In October 1997, UAW Local 600 approved a new local contract for the Rouge plant to ensure the future of Ford's oldest and largest manufacturing complex.

The union said the contract would lead to a $2 billion investment from the company to upgrade operations, including a new $1.2 billion plant with added production capacity. Ford has declined to comment on the investment.

The company has confirmed that a new paint shop will begin operating in early 2000, and that a new transfer press in the Dearborn stamping plant will begin production in early 1999.

The union agreement paves the way for production of the D219. One source said Dearborn assembly will produce the new sport wagon, and will continue to build the Ford Mustang on its existing line. The plant built 119,196

Johnson deal saves GM pact

ROBERT SHERefkin
Staff Reporter

DETROIT — Auto supp
Johnson Controls Inc. has preser
a $900 million contract with Gen
Motors by finding a new mino
supplier for a joint venture.

Johnson Controls and a ne
formed group, Epsilon LLC, h
created a partnership cal
Bridgewater Interiors L
Bridgewater will build front
rear seats for the Cadillac DeV
for the 2000 model y
Production for the five-year c
tract begins next July in Detroit

Bridgewater will become
largest venture between Gene
Motors and a minority-own
company. An earlier deal unr
eled last October when Chi
Products Ltd. of Sterling Heigh
Mich., filed for Chapter 11 ba
ruptcy protection. That forc
Johnson Controls, of Milwauk
to seek another partner.

"The bottom line is that somec
else could have won the busines
said Harold Kutner, GM's v
president and group executive
worldwide purchasing. "But th
that support the GM progr
probably have a leg up on supp
ers who are not actively supporti
minority purchasing."

As part of an industry drive
more minority suppliers, GM h
been pushing its direct suppliers
award 5 percent of purchases
certified minority suppliers.

Last year, GM itself spent abo
$70 billion worldwide on its pu
chasing; about $1.7 billion we
directly to 620 minority supplie
in the United States.

KEY PLAYERS

Epsilon will own 51 percent
the joint venture with Johns
Controls. Three key Epsilon playe
■ Ron Hall of Detroit will be cha
man, president and CEO
Bridgewater. He will resign his po
as president of the Michigan Minor
Business Development Council.
■ William Pickard, a majori
shareholder and executive in thr
Michigan-based automotive su
ply companies, including Reg
Plastics Co. of Roseville, Mich
will join Bridgewater's board.
■ Willie Davis, a California bus
nessman and former Green Ba
Packers football star, will sit on t
Bridgewater board.

Hall said Bridgewater will
capitalized with $2 million in cas
in addition to long-term loans.
will be our job to raise 51 perce
of that $2 million," he said.

Johnson Controls is the fift
largest supplier of original-equi
ment parts to North America, a
one of the industry's leading su
pliers of seats.

The Johnson Controls-Epsil
deal follows several sizab
arrangements between large par
makers and minority executive
Magna International Inc. last we
signed a letter of intent to sell
interest in its metal seat-fram
business to a newly formed mino
ty company. It is expected to repr
sent $1 billion of minority sourci
in North America.

Automakers are tracking comp
ance with minority sourcing rul
said Jesse Lovine, a senior vice pre
dent with the Ann Arbor, Mich.,
fice of Seidman & Co. Inc. of Ne
York. He said that in some cases w

If you have any questions, please contact me, or your staff may contact Robert M. Rosselli, Assistant Manager for Science and Technology, on (509) 372-4005.

Sincerely,

Original signed by:
John D. Wagoner
Manager

John D. Wagoner
Manager

MET:TLD

Enclosure:
FY 1998 Year End
Evaluation of Battelle

cc w/encl:
M. A. Krebs, SC-1

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JW WILEY, MET
DE TRADER, STP
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RECORD NOTE: None.

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Office >	DEP	MGR				
Surname >	PIPER	WAGONER				
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declassification during FY 1998. This project is exceeding all expectations, with exceptional quality, and within budget.

- The Laboratory is commended for the development of the Electronic Prep and Risk system and for providing RL staff with ready access to it. The 61-element checklist shows the depth of this process, and gives DOE good confidence that risk factors in many dimensions have been identified carefully by management prior to proposal issuance.

DOE is very pleased with the strides the contractor has made during this last year in quality of science, discipline of operations, cost-effective management, and community involvement. We look forward to our continued partnership, and working to further strengthen the results-oriented, performance-based process set forth within the new contract.

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operations and construction of major research facilities) were all rated as Outstanding, while the fourth goal (Effective and efficient research program management) was rated Excellent.

- During FY 1998 the Contractor provided Outstanding support to the Office of Declassification as it further implemented the DOE Openness Initiative. The Hanford Declassification Project reviewed more than 4,200 documents (over 171,000 pages) for declassification during FY 1998. This project is exceeding all expectations, with exceptional quality, and accomplished within budget.

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Date >	12/7/98	12/9/98	12/8/98			

Office >	MGR
Surname >	WAGONER
Date >	

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